summary

CITY OF
MILPITAS

General Development Plan

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I. LAND USE AND CIRCULATION ELEMENT

(Adopted January, 1964; Revised October, 1975)

CONCEPT

Milpitas will be a green-belt city of 55,000 that has "balanced" its local and regional roles through the integration of a highly amenable residential community and a thriving regional industrial center. The form of Milpitas will be relatively compact. On the west urbanization is confined by the Coyote River and on the east by the Calaveras Foothills (with selected intrusion of hillside development). The Coyote River Park and the Ed Levin Regional Park insure permanent open space at the boundaries of the Planning Area. On the north and south definition and separation is provided by the future South Bay Freeway and the Montague Expressway. The Town Center will be the "heart" of Milpitas' civic, cultural, business, and professional life. Residential districts will provide a variety of density patterns and dwelling types suitable for persons or families in all stages of the life cycle. A park-like setting will be created by a series of local parks, school sites, and a greenway system laced throughout all living areas.

Since geologic concerns are very important factors in planning for hillside development, the City of Milpitas authorized a Geologic and Seismic Hazards Investigation to determine the stability and relative safety of future residential development within the Hillside Area west of Piedmont Road, Evans Road, and North Park Victoria Drive. In order to provide for safe and appropriate residential development, the Plan for the Hillside Area makes substantial use of the findings and recommendations of that study. Construction of housing clusters, in the form of "planned unit developments," would make it possible to take advantage of natural topographic features and provide open space throughout the residential areas.

GOALS

TRANSPORTATION

- Develop a transportation system integrated with the pattern of living, working and shopping areas, and which provides for safe, convenient, and efficient movement within the City and to other parts of the region by whatever means of transit available.

- Direct special consideration toward the circulation needs of a modern, convenient central business district, including adequate off-street parking.

- Promote a traffic pattern which will encourage industry and further the potential of industrial land.

RESIDENTIAL AREAS

- Identify areas most appropriate for residential use controlled by safety concerns and topography.

- Establish population densities which can be served adequately by community facilities and utilities.

- Provide a variety of residential types to serve the varying needs of individuals and families while retaining existing structural standards.

ECONOMIC ACTIVITY

- Encourage economic pursuits which will strengthen and promote development through stability and balance.

- Publicize the position of Milpitas as a place to carry on compatible industrial and reliable commercial activity, with special emphasis directed toward the advantages of the City's location to both industrial and commercial use.

COMMUNITY IDENTITY

- Preserve and maintain the historical landmarks of Milpitas and its physical setting so the residents will recognize they are a part of a distinctive and dynamic community.

- Foster community pride and growth through beautification of existing and future development.

PUBLIC FACILITIES AND SERVICES

- Provide all possible community facilities and utilities of the highest standards commensurate with the present and anticipated needs of Milpitas as well as any special needs of the region.

- Develop adequate civic, recreational, and cultural centers in locations for the best service to the community and in ways which will protect and promote community beauty and growth.

FEATURES OF THE PLAN (See Table I-A)

VALLEY FLOOR RESIDENTIAL AREAS

The General Plan proposes that all living areas have a park-like quality which may be enhanced through the Planned Unit Development concept and the judicious siting of parks and schools. A complete system of landscaped pedestrian walks linking residential areas to schools, parks, shopping centers, and the Town Center will create a system of city-wide greenways (see Table I-B).

TABLE I-A
PROPOSED DISTRIBUTION OF LAND USES
MILPITAS PLANNING AREA
(Revised October, 1975)

Type of Use		Gross Acres	Per Cent
TOTAL PLANNING AREA		15,553	100%
SUB-TOTAL VALLEY FLOOR AREA		6,723	43%
Valley Floor Residential		2,470	16%
"R1" Residential	2,100		
Medium Density Residential	180		
High Density Residential	190		
Town Center		110	1%
Retail and Sub-Centers		140	1%
Professional, Administrative Offices		20	-
Commercial Services		160	1%
Highway Services		430	3%
Manufacturing		1,380	9%
Industrial Park		460	3%
Civic Center		8	-
Fire Stations		5	-
Local Parks		90	1%
Greenways (Hetch-Hetchy R of W)		35	-
Freeways and Major Streets		550	3%
Railroads and Rapid Transit		160	1%
Senior High Schools (3)		140	1%
Junior High Schools (3)		75	-
Elementary Schools (15)		150	1%
Junior College		120	1%
Coyote River Park		220	1%
SUB-TOTAL HILLSIDE AREA		8,830	57%
Levin Regional Park		600	4%
Watershed Regional Preserve		2,500	16%
Hillside Residential - All*		5,730	37%
(D.C. 5) Geologic Safety	2,730		
(D.C. 4) Rural	630		
(D.C. 3) Very Low Density)	460		
(D.C. 2) Low Density	1,670		
(D.C. 1) Moderate Density	180		

*Acreages include land for local parks, major streets and two elementary schools.

TABLE I-B
PROPOSED DISTRIBUTION OF HOUSING
UNITS AND POPULATION
MILPITAS PLANNING AREA

Residential Type	Residential Acres	Average No. D.U.s/ Acre	Total D.U.'s	Average Population Per D.U.	Total Population[1]
Valley Floor:					
Low	2,100	5	10,500	3.5	36,750
Medium	180	9	1,620	3.0	4,860
High	190	14	2,660	2.5	6,650
(Subtotal)	(2,470)		(14,786)		(48,260)
Hillside:					
All Types*	5,740	3 to 1/20	2,140	3.5	7,490
GRAND TOTAL	8,210		16,920		55,750

*Includes acreage for schools and parks.

TABLE I-C
PROPOSED SCHOOL ENROLLMENT AND AREAS
MILPITAS PLANNING AREA

	Students/D.U.[2]		No. of Students[1]			Schools Required[3]	
	S.F.	M.F.	S.F.	M.F.	Total	No.	Acres
K-6	0.70	0.56	8,850	2,400	11,250	21	210
7-8	0.13	0.10	1,640	430	2,070	3	60
9-12	0.17	0.19	2,150	810	2,960	2	90
GRAND TOTAL			12,640	3,640	16,280	26	360

1. Population and student figures are rounded off to tens place.
2. Milpitas Unified School District demographic survey, 1972
3. Standards:

   K-6 = 10 acres, 550 capacity (site size may be reduced)
   7-8 = 20 acres, 700 - 1,000 capacity
   9-12 = 45 acres, 1500- 2,100 capacity

Note: Junior College Parktown Site. = 120± acres. Enrollment in a Junior College is administered by Junior College District, not by the local municipality.

Single Family Residential: Occupying approximately 2,100 gross acres, these areas will be most attractive to families with several children. Average single-family densities in the Valley Floor area will be approximately 5 units per gross acre.

Multiple Residential Dwellings: The ranges of densities in these areas make possible a variety of housing types. In general, multiple-residential districts act as buffers between single-family areas and commercial and industrial activities or freeways and major streets. Medium density may include attached homes and groupings of duplexes and fourplexes. These areas will be most suitable for families with few children and childless couples. The most dense areas in Milpitas will be characterized by tall buildings in park-like settings. They can provide efficient housing that will be suitable for childless couples and single persons.

COMMUNITY FACILITIES

Schools: Provision for school facilities has been made according to the standards of the Milpitas Univied School District (see Table I-C). As the detailed development pattern of the Hillside Area cannot yet be determined, only the Airpoint School is shown on the plan map.

Recreational Facilities: The General Plan anticipates 14 three to five acre parks adjacent to school sites. Supplementing these parks will be school play areas and the Hetch-Hetchy greenway. The greenway proposal envisions the development of the San Francisco Water Department's 80 foot right-of-way as a pedestrian walkway and a cycling path with simple recreation facilities. Supplemental parks will also be provided through planned unit developments. There are two notable buildings in the Planning Area which should be protected as part of the City's historical heritage: the Jose Higuera Adobe and the Jose Maria Alviso Adobe.

Two regional parks will be located within the Milpitas Planning Area: the 600+ acre Levin Park in the foothills, and approximately 220 acres of the County's proposed Coyote River Park. Roughly 2,500 acres of Calaveras watershed lands are designated as a Regional Recreational reserve. The plan also shows the riding and hiking trails proposed to be part of the state wide trails system.

Government Facilities: An 8-acre site for City offices is adjacent to the Town Center. Branch offices of other government agencies could be located in the Civic Center site or in office areas of the Town Center.

COMMERCIAL ACTIVITIES

Town Center: The Town Center will be the functional and visual focus of Milpitas. In the approximate center of the Planning Area, it will be accessible to residents and commuters and will be distinguished by a variety of commercial and civic activities drawing upon a city-wide service area. Its location and magnitude dictates an architecturally distinctive complex which will become a regional landmark and immediately identify Milpitas. The total area of the Town Center is 110 acres.

Retail and Service Strip: The existing commercial strip on Main Street will remain the retail center of Milpitas, until the Town Center development begins to generate activity. Commercial services south of Corning Avenue would include a wide range of personal and business services oriented to the automobile customer.

Retail Sub-Centers: Neighborhood shopping facilities will provide a concentration of convenience daily needs to groceries and minor hard goods purchases. Six sub-centers, between 8-12 acres in size, are distributed throughout the City.

Professional and Administrative Offices: These areas will provide advantageous locations for medical, law, and similar services required to serve local residences, stores and industries. This activity is concentrated in the Town Center, with supplemental areas along Park Victoria Drive.

Highway Services: Three highway service areas are designated in the General Plan. These areas would be suitable for motels, trailer parks, and non-retail services such as car rental offices.

INDUSTRIAL USES

Manufacturing: The industrial core of Milpitas is the 1,000 acre block of land between Calaveras Boulevard and the Montague Expressway. A second 160 acre manufacturing area is in the southeastern quadrant of the Nimitz Freeway and the proposed South Bay Freeway and a third manufacturing area consists of 220 acres west of the Nimitz Freeway and north of the Milpitas-Alviso Highway. It is intended that development will not begin in the third area until after the manufacturing areas east of the Nimitz have been substantially developed. Manufacturing activities include a variety of intensive and extensive uses such as printing and publishing and fabricated metal processes.

Industrial Park: These areas are typified by plants engaged in intensive activities free from noise, odors, and other potential nuisances. Such firms are characterized by handsome buildings on landscaped sites. By virtue of their "clean" operations, the industrial park sectors usually serve as buffers between the heavier manufacturing uses and adjoining residential or commercial activities.

HILLSIDE AREA (See Table I-B, Pg. i-4)

It is the intent of the City to retain the Hillside Area as a semi-rural neighborhood of Milpitas and not to be developed so as to encourage an isolated individual community within the hillsides. Specific apartment areas and high-rise development areas are excluded from the Hillside Area; however, density transfer is allowed for clustered development of single family units. Within the Hillside Area reasonable geologic safety is necessary and the potential loss of life and property will be of paramount consideration. No intensive commercial development will be allowed in the Hillside Area.

Residential density is based on two physical characteristics, geologic safety and slope. Where the geologic suitability is high and the slope is low residential development would be allowed to be more intense and where geologic stability is questionable and the slopes are greater the residential density would be sparse.

The Hillside Area has been divided into five Development Categories (D.C.). Development Categories 1 through 4 correspond to geologic study areas 1 through 4 as defined by Burkland and Associates in Hillside Geologic and Seismic Hazard Investigation, and Development Category 5, along with its sub-categories (5.1, 5.2, 5.3, 5.4) corresponds to areas 5 through 8 as defined by the report. The residential density will be distributed as follows:

General Plan Dev. Cat.	Basic Density DU/Acre 6% - 15% Slope	16% - 25% Slope	Slope Increase Requirement 6% - 25% Slope	Slope Density DU/Acre 26% + Slope
1	3	1	See Below	1/5
2	2	1/2	"	1/8
3	1	1/4	"	1/9
4	1/2	1/6	"	1/10
5**	1/5 to 1/20		--	--

Slope Increase Requirement: (Categories 1 thru 4) For slopes between 6% and 15% each 1% increase in slope above 6% but below 16% requires a 10% increase in lot size. For slopes from 16% to 25% each 1% increase in slope above 16% but below 26% requires a 10% increase in lot size.

Development Categories 1 through 4 can be defined as "hillside urban" and it is the intent of these categories to allow development consistent with the relative slope. Where the site is relatively flat more extensive development will be allowed than in areas with steeper slopes. Development Category 5 encompasses areas of the hillside with troublesome to severe geologic problems, and strictly limits development due to safety concerns.

** Sub-category densities: D.C. 5.1 = 1/5; D.C. 5.2 = 1/10; D.C. 5.3 = 1/5; D.C. 5.4 = 1/20.

CIRCULATION

The circulation system is a key contributor to the form of Milpitas as it will develop by 1985. The high-speed, limited access regional freeways and expressways will carry commuting employees to the periphery of work and service centers. The major street system provides the necessary links between local streets and the regional facilities. Internally, the system of expressways and major streets allows residents to move between their homes, the Town Center, and employment areas in the minimum amount of time.

All freeways should be landscaped to improve their appearance and have sound attenuation walls constructed to diminish the traffic noise generated. The existing Sinclair (Route 680) and Nimitz Freeways will remain unaltered except for possible lane additions and improvements in the existing interchanges. The proposed South Bay Freeway will link Route 680 to the Nimitz Freeway approximately along the County line.

Calaveras Road from Route 680 interchange to the intersection of Downing Road would be widened and improved to a four-lane major arterial street standard; eastward through Levin Regional Park, it would become a two-lane collector street. North Park Victoria Drive, extended to the County line, will be a major four-lane street at the base of the foothills. These are the only proposed major streets in the Hillside Area; all other streets are treated as collectors.

INTERIM BIKEWAYS PLAN

The Milpitas Interim Bikeways Plan is intended to bring about a comprehensive City-wide bikeways traffic system. The plan (Figure I-1) utilizes several classes of bikeways and essentially consists of three north/south and three east/west systems of bicycle routes. The goals of the Interim Bikeways Plan are:

- To provide the opportunity for safe, convenient and pleasant bicycle travel throughout Milpitas.
- To encourage the use of bicycles as a pleasant means of travel and recreation.
- To provide the facilities and services necessary to allow bicycle travel to assume a significant roll in local transportation and recreation.
- To encourage coordination and development of inter-city bike routes.

The characteristics of bikeways in the plan are of four classes:

Bike Paths: Physically separated from auto and pedestrian traffic. Such paths will occur in relatively few instances where construction or reconstruction of street or other projects allows their incorporation in the design.

Unimproved Bike Paths: These facilities will be of an unimproved nature other than appropriate signing.

Bike Lanes: On existing street right-of-ways designated by appropriate signs and street markings. Such bike lanes can occur wherever streets are of such width to allow both auto and bicycle lanes, or room for bicycle lanes is created by parking restrictions.

Bike Route: The right-of-way to be shared with autos with adequate signing of bicycle traffic to increase the motorists' awareness.

FIGURE I-1

INTERIM MILPITAS BIKEWAYS PLAN

II. HOUSING ELEMENT
(Adopted July 5, 1972)

INTRODUCTION

The City of Milpitas has participated fully as a member jurisdiction toward the preparation of the Joint Cities-County Housing Element Program. In order to make adequate provision for the housing needs of all economic segments of the community, this program identified several aspects of Santa Clara County's housing problems and made recommendations.

The City of Milpitas recognizes that cooperative efforts by all related public and private participants in the realm of housing will be required to alleviate present future housing problems. The City also subscribes to the belief that programs and policies for housing must be consistent with good planning principles and environmental concerns.

A more specific Housing Assistance Plan has been adopted by the City Council and should be referred for more detail regarding the implementation of the goals and polices stated below.

GOALS

- To encourage provision of decent housing for all persons, regardless of age, income, race, or ethnic background.

- To encourage the provision of a variety of individual choice of tenure, housing type, and location.

- To establish, maintain, and enhance the character, quality, and livability of residential areas.

In amplification of these primary housing goals are the following related goals for housing:

- To plan for housing construction adequate for future populations and for replacement needs, consistent with community growth goals.

- To eliminate housing deficiencies and prevent future blight through conservation, construction, rehabilitation, and removal.

- Within our ability, to provide opportunities for Milpitas citizens to meet their housing needs in the housing market.

- To encourage the cooperation within the housing market so that suppliers and consumers can function more effectively, consistent with community growth goals.

- To encourage the availability of financial subsidies so that families disadvantaged in the housing market can be provided safe, sanitary, standard housing.

- To encourage a full range of housing and employment opportunities, open space, and adequate transportation and community facilities throughout all communities in the urban area of the County.

HOUSING POLICIES

Pursuant to the above goals and the need to overcome housing problems confronting the community, the City of Milpitas intends to formulate a clear set of local housing policies and to evaluate the performance of development controls against them. These policies are:

- That zoning is to be used in ways which will encourage variety and mix in housing types and provide adequate sites for housing persons of all races, ages, ethnic groups, and income levels in Milpitas.

- That mix in the cost and type of housing units in new subdivisions and apartment complexes be encouraged in the granting of residential developments.

- That there be vigorous enforcement of the provisions of the State Health and Safety Code minimum space standards for new construction.

- To limit the amount of subsidized housing for low and moderate income families in Milpitas, and to assure that such subsidized housing is geographically mixed within the community.

III. OPEN SPACE AND CONSERVATION ELEMENT
(Adopted June, 1973)

INTRODUCTION

This element provides a series of guidelines to insure against the loss of necessary open space and other natural resources. Because open space objectives and the majority of conservation objectives overlap in terms of decisions concerning land use and the dynamic processes of nature, this element allows for consideration of both.

The term "open space" as used in this element is defined as:

> Any parcel or area of land which is essentially unimproved or improved in a natural landscape and devoted to open space use. "Open space use" means the use of the land for public recreation, the enjoyment of scenic beauty, conservation or use of natural resources, production of food and fiber, or public safety.

GOALS

- To provide contrast to the man-made urban environment so as to assist our residents in fulfilling a need for contact with nature and a desire for community recreation.

- Preserving and enhancing natural areas which act in providing for clean air, water, and an unspoiled environment.

- Acquisition and maintenance of park lands sufficient to provide a parks and recreation system in Milpitas, designed to serve the recreation needs of all residents of the community.

- Preservation and enhancement of the natural beauty of the Milpitas area.

- Prevention of the unnecessary or premature conversion of open space lands to urban uses, and discouragement of costly urban development patterns.

- Protection and conservation of open spaces which are necessary for wildlife habitats and unique ecologic patterns.

- Preservation of land and open space which would be considered potentially hazardous for customary urban development.

PARK AND RECREATION LANDS

STANDARDS

The residents of Milpitas have the opportunity to utilize hundreds of open acres a short distance from home. Besides many local parks and school playfields within their neighborhoods, the citizens can also take advantage of the 600± acres Ed Levin Regional Park located within the incorporated limits of

Milpitas. Currently within our City, residents can make use of ten neighborhood parks and one mini-park (see Figure III-1), three privately owned parks, four baseball diamonds, an adventure park, open acreage at sixteen public schools, and a regional park. The total acreage of useable recreation space located on public park land equals 647.0 acres. Private park open space constitutes 11.1 acres while public school open space acreage totals 190.2 acres for a grand total open space recreation acreage figure of 842 acres, resulting in ninety-five acres of open space per 1,000 population.

The park and recreation standard for neighborhood and community size parks utilized by the City of Milpitas is 5 Ac./1000 population and the corresponding overall combined City and school recreation standard is 18.5 Ac./1000 population. Utilization of school site adjacent to neighborhood and community parks offers more efficient utilization of the tax dollar in regards to recreation benefits. Whenever possible new parks (neighborhood and community) should be located adjacent to public schools to make possible joint use of school facilities and open park lands.

A prerequisite for the establishment of a park system is the early emphasis upon acquisition of land through the Planned Unit Development and "cluster" mechanism. Where no subdivision potential is available public acquisition and other mechanisms should be considered. While regional recreation areas are sufficient for the present, future recreation areas of regional significance will be needed.

REGIONAL RECREATION

To secure the recreation potential available at the Calaveras Regional Recreation Area, the City, accompanied by Santa Clara County, should enter into agreement with the present owners of the Calaveras Reservoir and Watershed (City and County of San Fransisco) whereby ownership of the property and water level controls remains in the hands of the owner, but rights to implement and control recreation uses are secured by the local government.

The Coyote River area should be developed in cooperation with the County Park and Recreation Commission in a linear park chain which would connect with the Coyote Park Chain in San Jose as well as provide a safe machanism in which flood control measures could be undertaken. At this time it is hard to derive an acreage figure for the linear park chain within Milpitas but a total of 220 acres appears reasonable.

TRAILS

Milpitas should encourage trails along publicly owned rights of way to increase walking opportunities in a pleasant and safe natural environment, such as streamsides. The "people path" should be an integral part of any linear park chain. Two proposed park chains within Milpitas (Coyote River Park and Hetch-Hetchy Park Chain) should provide an extensive, visually stimulating system of "people paths." The General Development Plan calls for approximately 14 miles of hiking trails within the Hillside Area.

Figure III-1

Current
Neighborhood Parks

SCENIC RESOURCES

The visual image of Milpitas is one of an urban community located at the foot of the Mt. Diablo Range. The foothills, as well as the tree-lined agricultural lands west of the Nimitz, provide Milpitas with a scenic backdrop and visual reference points. Urban development west of the Nimitz should exclude from its reaches the tree-lined Coyote Creek. Urban development in the hillsides should be located in geologically safe areas and at those densities as shown on the adopted Milpitas General Development Plan. Ridgelines, rocky prominences and remaining natural stands of trees should be protected from the bulldozer by consideration of the following:

- Conservation or aesthetic zoning, providing that a landowner can continue to make reasonable use of the balance of his land under the restriction. If he cannot, the preservation of such features would require:

- Public purschase of scenic easements or full-fee interest; or

- PUD or "cluster" type development should be encouraged which would preserve these scenic natural areas as open space within the development.

Specific emphasis should be placed on planting street trees as well as on-site trees within the foothills. All public and private utilities (i.e., telephone lines, sewer and water connections) should be placed underground to reduce the visual impact of urban expansion. Construction should be restricted or completely prohibited when located on a ridgeline or any location which alters the natural silhouette of the foothills.

It should also be required that the Public Works Department receive ample funds to promote a public street beautification program in conjunction with other agencies and committees.

AGRICULTURAL, SOIL, AND MINERAL RESOURCES

AGRICULTURAL AND GRAZING LANDS

The main functions which farm lands and grazing acreage can provide to the Milpitas Planning Area are: to give visual relief from urbanized areas; to produce food products for the region; and to act as "nature's sponge," absorbing water, preventing run-off, and protecting soils.

While there are approximately 1,000 acres of agricultural and grazing land within the present City limits, there are no lands planned for permanent agricultural use. The City should develop a working relationship and idea exchange process with ranchers and farmers for promoting the economic viability of agriculture. Staged growth patterns with firm policies and guidelines, coordinated with expected growth rates should be developed to provide agriculturalists with a long-term basis for their own investment planning. Development emphasis should be placed on "filling-in" the Milpitas urban pattern rather than promoting urbanization outside the urban service area.

MINERAL EXTRACTION AREAS

When considering mineral extraction, three critical factors must be weighed: impact upon the natural environment, regional need for the minerals extracted, and impacts upon the community from the extraction operation.

Within the Milpitas Planning Area, mineral extraction practices are mainly surface mining for low-unit-value earth materials (aggregate, sub-base materials). The scenic damage that has already occurred from this type of extraction is readily apparent; it is also possible that such activities may adversly affect water resources. Another critical impact upon the community is that most mining and extractive practices must ship or haul many tons of products from their site to a processor or sales outlet. When the only means of transportation for the product is by trucks passing through urbanized areas and traversing narrow hillside roads, there are a great many impacts produced upon the community.

Efforts should be initiated to acquire jurisdictional controls over the existing mining and extractive operations within the Planning Area. If a new mining interest wishes to undertake an extractive practice, it now will be required to clean up and restore the environment upon completion of the mining use through the Conditional Use Permit procedure.

SOIL PROPERTIES

Like many other things, soils have certain characteristics which either promote a land use or severely restrict its application. Knowing the soil types and the characteristics will facilitate the determination of which areas are most suitable for development or open space uses. Approximately 40% of the soils within the Milpitas Planning Area are Class I, II or III. These three classes make up the best soils for agriculture and feature limited soil deterioration over a long period of time. Within the Planning Area the soils which are generally considered to be the best agricultural and soil resources include the Campbell Clay Loams, Clear Lake Clay, Cropley Clays, Orestimba Clays, Mocho Loams, Rincon Clays, Sunnyvale Silty Clays, and the Yolo Loams. These soils and their associations should be an important input into land use decisions.

WATER RESOURCES

RECREATION AND SCENIC VALUE

Within the Planning Area, numerous bodies of water exist which possess scenic value. The Calaveras Reservoir in particular possesses water and scenic qualities worthy of preserving for centuries. The extension of urban services into this scenic water resource area should be highly restricted and only for public convenience facilities.

Small scale scenic water resources offer open space variety to the landscape and innovative relief from the structured urban environment. There is, however, a shortage of lake and pond areas in Milpitas that are of recreational, as well as scenic, value. As they are either lined or partially lined with concrete sidings, the current scenic value of Milpitas' streams is highly limited notwithstanding many hours of toil for their visual revitalization.

The section of Berryessa Creek which runs through the Town Center area should be developed into a scenic, as well as recreational, resource for the Town Center. Fountains and pools within urban complexes not only compliment the buildings surrounding a plaza or mall, but highlight the open space itself.

WATERSHED

Water and its hydraulic forces also provide potable water, public safety, and support for the ecosystem. Within the Milpitas Planning Area, the Hillside Area extending back to the Calaveras Reservoir provides a valuable resource as a watershed, controlling water run-off and also providing a vast amount of open space. Lands within the Milpitas Hillside Area represent a small section of the Diablo Range watershed which is important for water production to the region.

The Calaveras Reservoir and its thousands of surrounding acres are a part of the Hetch-Hetchy water system from which the City of Milpitas obtains the majority of its water. East of the first range of the Los Buellis Hills, water supplies are seasonal; most springs and wells usually provide adequate water supplies during the wet months, but dry up during summer and warmer months.

VALLEY FLOOR DRAINAGE SYSTEM

The western half of the Milpitas Planning Area lies within the Coyote River Basin. The seventy-five mile long Coyote River is the primary natural drainage facility for the east side of the Santa Clara Valley. Within the Planning Area there are two major patterns of flooding based upon the 100 year storm (see Figure III-2). The first pattern is created by the Coyote River overflowing its banks and flooding an area generally north of the Hetch-Hetchy pipeline and west of Highway 17. The second pattern is caused by tributary creeks and flood control channels which, due to their limited capacity in relation to a 100 year storm, overflow and could potentially inundate a considerable portion of developed land. The majority of urbanized Milpitas is drained by flood control channels (see Figure III-3). The levees of these channels possess great potential for walking and bike trails and other recreation uses.

MULTIPLE USE

Water and water-related areas should be preserved and protected to allow continuation of their beneficial open space functions. "Multiple use" of water and water-related areas should be urged by the City when dealing with agencies which handle water management. Concerns for open space, ecological maintenance or improvement and recreation should be incorporated into utilitarian designs of water supply and flood control projects.

WILDLIFE AND VEGETATION

Within the Milpitas Planning Area, and particularly along the northwestern section abutting the Coyote River and Baylands, there may be natural habitats for two endangered and one rare species. The two endangered species are the California Clapper Rail and the Salt Marsh Harvest Mouse. Both of these species inhabit the salt marshes along the San Francisco Bay, and the main cause of endangerment include bay fill and drainage and industrial pollution. The rare species is a snake known as the Alameda Striped Racer. The Alameda Striped Racer is found in the valleys, foothills, and low mountains east of San Francisco Bay. This species has been reduced mainly by recent construction and development.

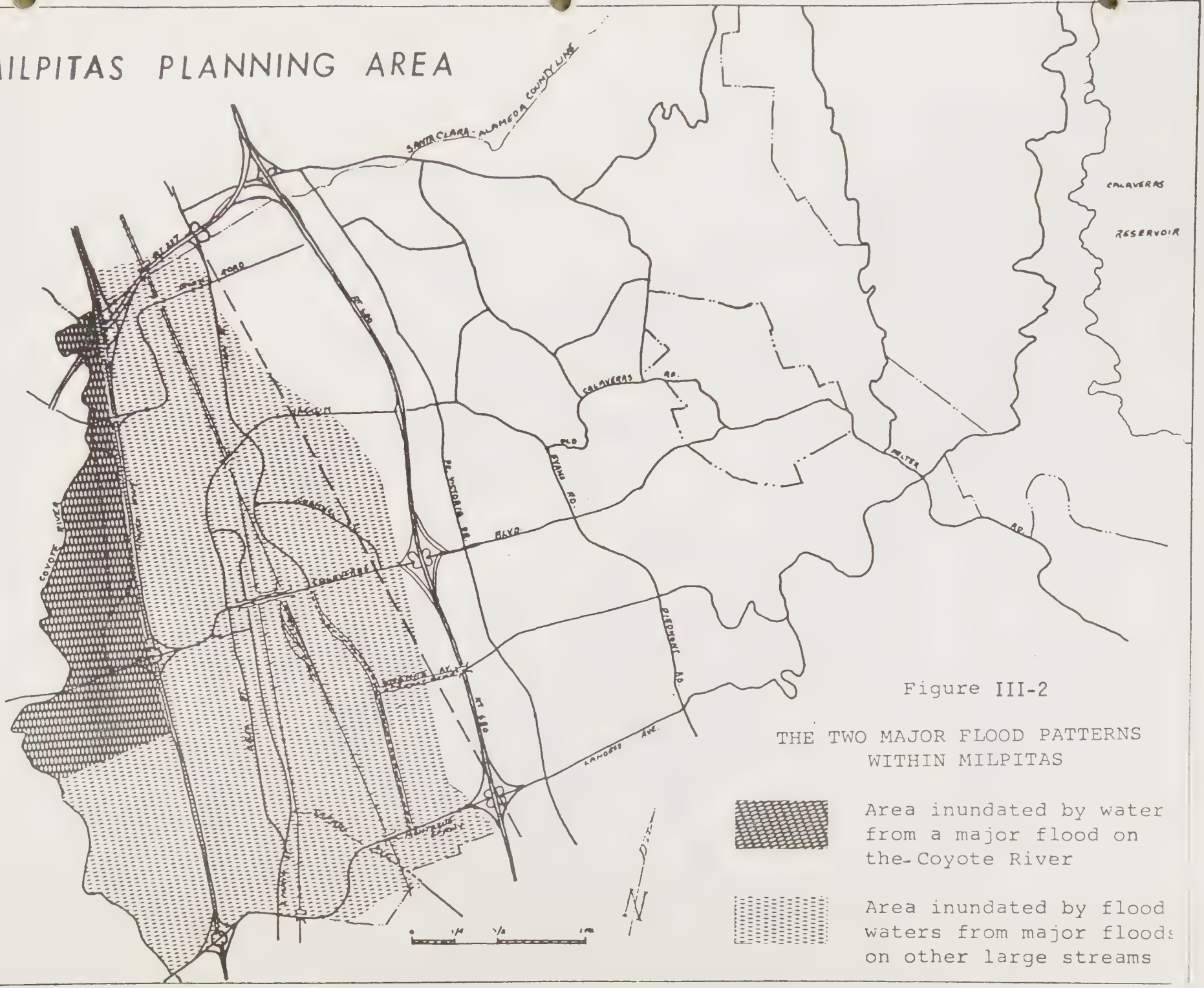


Figure III-2

THE TWO MAJOR FLOOD PATTERNS WITHIN MILPITAS

Area inundated by water from a major flood on the Coyote River

Area inundated by flood waters from major floods on other large streams

Figure III-3

FLOOD CONTROL CHANNELS
WITHIN MILPITAS

Aside from rare and endangered species, the various habitat conditions of the Milpitas Planning Area support the California Coastal Deer, gophers, water snakes, rattle snakes, song birds such as the mocking bird, the red-winged blackbird, upland game birds, pheasant, quail, doves, squirrels, and even bobcats and an occasional mountain lion.[1] Fish species include bass, catfish, trout, and non-game species which may be found in the Calaveras Reservoir, Sandy Wool Lake, and periodically in Coyote River and impounded waters within the foothills.

The values which vegetation in general possess are basically five-fold and include: providing scenic beauty, serving as habitat for wildlife, preventing soil erosion, maintaining air quality, and controlling water runoff in watershed areas.[2] The educational value of untouched vegetative communities and the ecosystems which they support can only be obtained from a relatively unimproved open area.

Tree removal, grading, and other actions which remove vegetation pose a threat to open space values and other environmental concerns. Grading regulations controlling the removal of vegetative cover from hillside areas should be strictly enforced. Remaining tree stands within the Planning Area should be preserved as a major open space and protective resource. Recreational use of essentially virgin areas should be centered around activities which would have a minimal disruptive effect upon the natural vegetation.

UTILITY AND SERVICE CORRIDORS

Two water systems (Hetch-Hetchy and South Bay Aqueduct), two major electrical transmission corridors (P.G.& E.), and a gas line (P.G.& E.) traverse the Planning Area (see Figure III-4). Contractual agreements should be initiated with the various utility right-of-way owners for recreational/open space uses when consistent with recreation and open space policies.

Scenic values can deteriorate when careful considerations relating to transmission line placement and design are not addressed in the planning process. Transmission lines should be placed so that they remain relatively inconspicuous in relation to scenic resources. Undergrounding and careful route selection should be of paramount concern when dealing with replacement, relocation, or additions to the present transmission corridors within the Milpitas Planning Area.

UNDEVELOPED LAND

Vacant parcels within the City are generally in close proximity to each other and act to define the "built up" neighborhoods within the City. The future only offers a continuing development of vacant lands.

Due to the economic pressures upon the City, it appears at this time that future expenditures for purchase of open vacant land within the City is highly improbable. A significant proportion of open space generated within the City will continue to come from requirements placed upon developers.

Vacant industrially zoned land is in such a supply that full development of this land will take a number of years. Vacant industrially zoned land, which is not close to a major freeway or thoroughfare, can be expected to remain in an open use at least over the short-term.

Figure III-4

UTILITY CORRIDORS WITHIN MILPITAS

High initial costs for large scale development within the hillsides will act to naturally encourage development into the valley floor. The City should continue to stress development within the incorporated limits, which act to "fill-in" the urban fabric, rather than provide costly extensions of urban services into outlying areas.

HISTORIC RESOURCES

Located near the easterly side of Sinclair Freeway north of Evans Road lies the Marian Weller Estate. Once part of Rancho Tularcitos, one of the few original Spanish land grants within the County, the highlight of this property is an original Spanish adobe, the Jose Higuera Adobe, which has been somewhat modified architecturally. To add to the historic and scenic charm of the property is a double row of olive trees planted by the missionaries of the middle 1800's, an old patch of cactus, and related outbuildings near the adobe. This accumulation of Spanish culture and architecture make the site a worthy candidate for preservation. To reap full benefits of this site, a historic park of three to eight acres should be considered.

Another adobe within the Planning Area, the Jose Maria Alviso Adobe, along with four one-hundred year old olive trees, is located at Piedmont and Calaveras Boulevard. This historic adobe should also be turned into a historic site.

PUBLIC SAFETY

The Planning area has located within its boundaries certain sites which are subject to natural and/or man-made hazards which could endanger lives if urban development encroaches upon them. The cost to the community for financial and physical aid for rescue and rehabitation operations could potentially outweigh any benefits created by development within hazardous areas.

Zoning and other land use regulations should be used to limit, and in some instances to prohibit, development in hazardous areas. The degree of development limitation provided for in such regulations should be commensurate with the degree of hazard involved and the public costs likely to ensue if emergency or remedial public action becomes necessary.

PRESERVING OPEN SPACE

DEGREES OF CONTROL

When a public body desires to obtain open space it must also consider exactly how much control is desired. The following list and explanations are designed to show the options available in regard to the degree of control available for open space preservation:

	DEGREE OF CONTROL
GREATEST	1. Fee title
	2. Easements
	3. Leases
LEAST	4. Options to purchase

Fee Title: Outright purchase is the surest way of preserving open space in perpetuity. However, there are certain disadvantageous such as "immediate financial costs, future maintenance expenditures, and the loss of tax revenues from private ownership."[3] When purchase by full fee is possible, it should be made for valuable open space areas in danger of development, areas intended for full public use, and lands whose values would be lost by any private use.[4]

Easements: Since it is not possible nor really desirable for all open space to be publicly owned, large areas of land should remain in private ownership in such forms as private estates, farms, country clubs, etc. The use of easements could be a very effective tool in preserving such types of open space.[5] An easement can be considered to be a privilege, right, or group of rights which one person or body has with regard to land owned by another person. The two types of easements concerned here are scenic easements and access easements. Access easements are centered around the right of one person to enter upon another person's land for certain specific uses. Scenic easements refer to the right of another person to restrict the ways in which a landowner may use or otherwise alter the appearance of his land.

The flexibility inherent within scenic easements offers a wide variety of potential objectives such as protection of scenic areas, preservation of wildlife habitat, conservation of farmland, protection of watershed lands, control of the timing and location of future urban development, prevention of development in hazardous areas, flood plains, and reservation of lands for future public use.

Leases: Leases are simply the public rental of land for either long or short periods of time. Lease arrangements find special application on lands in which the owner will not sell, but will allow to be leased for a specific period of time. Public agencies also find the use of leases to be financially acceptable, since land can be used by the public even though the full purchase price cannot be afforded.

Options to Purchase: Options to purchase are described as acquiring the right to have the first chance to buy a piece of land. If a parcel of open space land is currently for sale, the option would provide for purchase within a specified period of time at a designated price. Options can be used to "reserve" land for a specified period of time, during which fund raising efforts can be undertaken to obtain enough money to complete the purchase.[6]

OPEN SPACE ACQUISITION MECHANISMS

The following list of acquisition mechanisms offers some of the alternatives which Milpitas can use to control open space either by full or partial control.

Voluntary Sale: A voluntary agreement between a landowner who wishes to sell his land and a public body who wishes to buy it is but one means of open space retention.

Eminent Domain Purchase: The use of eminent domain, the compulsory acquisition of private property for public use, has been used extensively by governments at all levels. The formal legal procedures by which eminent domain is exercised is known as "condemnation." Owners who have their lands condemned must, according to United States and State constitutions, receive just compensation.

Dedication: Dedication is the transfer of title or partical interests in land from a private landowner to a public body without direct monetary compensation to the owner.[7] Prime examples of items dedicated include streets constructed as a part of a subdivision, public parks, and trails.

Donations: Gifts (donations) of open lands are not at all rare since many landowners have a deep affection for their open lands and strive to keep them undeveloped through donation to a public agency. Landowners are now learning of the tax advantages that can be realized when land is donated. Gifts of land with a reserved life estate provide tax advantages while the owner and his family may live on and use the land.

Tax Foreclosure: Lands which have become tax delinquent can be acquired by local agencies and added to park supplies or left in a natural state to supply wild life habitat. Lands foreclosed can be purchased by the public and resold to establish an open space fund which can be used to buy other sources of open space.

Transfers: Federal and State projects of all types often acquire land which is excess or never to be built upon. These particular parcels can sometimes be transferred to local governments with no cost or next to none, especially if they are planned for open space or landscape uses.

Implied Dedication: This legal principle means simply that if the public uses a trail or path on private property for a number of years, and the landowner does not restrict this movement, the courts have ruled on occasion that he is, in effect, granting an access easement to the public.

FEE TITLE PURCHASE VARATIONS

With total control of a piece of property come the expensive costs. There are, however, several variations of fee title acquisition which either reduce the costs incurred or extend limited funds for maximum purchasing power and effect.

Purchase/Leaseback or Saleback: The public purchases, in fee, a piece of open space land and then leases or sells the property with certain restrictions which guarantee that the open qualities of land will be preserved.

Staged Purchase/Acquisition: An agreement which divides the land into several smaller parcels and gives the public body an option to purchase the entire tract one parcel at a time.

Lease/Purchase: The public body to enters into a long-term contract to lease land (or, more often, facilities such as recreation complexes). Within the lease agreement are specific provisions which give the public options to purchase the land (or facility) at various prices during the course of the lease.

Advanced/Inhibiting Acquisition: The advance public purchase of strategically located parcels which tend to make large-scale development in the area extremely difficult. This might, for example, be accomplished by purchasing or establishing controls on scatterd parcels throughout an area in a pattern which would inhibit developers from assembling large, continuous parcels for development.

Excess Condemnation: Excess condemnation is the taking of more land than is required for a public project. The use of excess condemnation for open space purposes in conjunction with other public projects may include small parks along a highway, a neighborhood park adjacent to a public school, creation of barriers or buffer zones between airports and nearby residential areas, or inhibiting unwanted private urban development adjacent to open public recreation areas, highways, or reservoirs.

OPEN SPACE PURCHASE FUNDS

The General Fund: Purchasing open space lands with General Fund resources is attractive mainly because cost savings are realized due to the avoidance of interest and other debt service costs. However, it is difficult to set long range open space acquisition programs because the yearly money appropriated may vary greatly due to fluctuations in local government revenues and/or the decisions of local government officials. Also, it is often not possible to appropriate enough money in one year to completely cover the cost of the more important and/or expensive open space acquisitions without creating a severe strain.

General Obligation Bonds: This source of open space funding is one of the most common used by cities and counties. Using general obligation Bonds offers immediate funds for open space acquisition while repayment is spread over a period of years.

Revenue Bonds: Bonds are backed by the revenue to be derived from the project for which they are issued. Two attractive points for revenue bonds are that they do not require voter approval nor are they governed by debt ceilings.

User Fee: A cost paid by the user of an open space area or facility.

Payments In-Lieu of Dedication: Local governments can require as a condition for approval of a subdivision that open land be dedicated to the public, or a fee be paid in-lieu of such dedicated open space, which is to be used for open space purposes.

Special Assessments: Taxes levied upon a particular group of blocks, neighborhood, or geographic area that realize a public benefit, such as the availability of open space lands.

Local Taxing Techniques: Many local governments use special taxing techniques which are imposed upon certain activities that directly or indirectly relate to the consumption of open space, such as a special tax upon new residential developments. Others are unrelated to open space and are simply used for their revenue producing potential, as when revenues from traditional tax sources are earmarked for open space programs.

Federal and State Funds: Local governments have received considerable help in acquiring open space through various Federal and State programs. Today grant programs exist which not only help secure park and recreation land but also land which provides natural habitats, aesthetic values, and other open space/conservation benefits.

THE URBAN PATTERN

The shape which a city ultimately takes is greatly influenced by the decisions made in regards to open space and development policies. Urban growth patterns are usually effectuated by the General Plan and the use of the police power which creates certain zoning regulations. In order to help determine generally when and where development should logically and efficiently occur, the City should formulate an Urban Service Area or development boundary. This boundary is designed to encompass existing urban areas as well as a supply of developable vacant land sufficient to accommodate approximately five years of anticipated normal growth.

REFERENCES

1 Santa Clara County Planning Department, Santa Clara County's Open Space -- How It Can Be Conserved, Spring 1971.

2 Planning Policy Committee, Santa Clara County, An Urban Development Open Space Plan for Santa Clara County, September 1972.

3 Western Center for Community Education and Development, University of California Extension, Open Space in California: Issues and Options, University of California Press, Los Angeles, April 1967.

4 Ibid

5 Ibid

6 Santa Clara County Planning Department, Catalog of Open Space Preservation Tools, "Part I: Public Acquisition", 1973.

7 Ibid

IV. NOISE ELEMENT

(Adopted September, 1974)

GOAL AND OBJECTIVES

The goal of the City of Milpitas regarding noise is to reduce to and/or maintain those noise intrusion levels in all areas of the City of Milpitas that are deemed acceptable by the community.

Objectives used to achieve this goal are:

- Have residential areas quieter at night than during the day.
- Have residential areas generally quieter than commercial and industrial areas.
- To hold the sound level of commercial and industrial areas at a minimum so it does not interfere with normal business and commercial activity.

NOISE EVALUATION

The intensity of noise is the amount of sound pressure or energy put forth at the source. This intensity is measured by the decibel (dB). Decibels progress in a logarithmic manner. As shown in the chart below, for every net gain of 10 decibels, the sound energy increases geometrically ten times.

Noise Source	Decibels dB (A)	Relative Change in Sound, Energy
Threshold of Hearing	0	1
Whispering	30	1,000
Coversation	60	1,000,000
Food Blender	80	100,000,000
Truck	90	1,000,000,000
Heavy Traffic	100	10,000,000,000
Neaumatic Drill	110	100,000,000,000
Jet Aircraft	120	1,000,000,000,000

A sound level meter is an instrument used to measure noise. The scale most commonly used for this instrument is the A Scale since it most closely approximates the response of the human ear to noise. Sound levels measured on the A Scale are expressed in units of decibels, dB(A).

THE EFFECTS OF NOISE ON MAN

A noisy environment is not only annoying but can also affect health and well being. This kind of environment interferes with sleep, work and recreation. Physiological and psychological states are also affected by excessive noise. Noise-induced hearing impairment can create problems at home, at work, and in many social situations due to inability to communicate effectively.

DETERMINING NOISE VIOLATIONS

- The volume of the noise.
- The intensity of the noise.
- Whether the nature of the noise is usual or unusual.
- Whether the origin of the noise is natural or unnatural.
- The volume and intensity of the background noise, if any.
- The proximity of the noise to residential sleeping facilities.
- The nature and zoning of the area within which the sound emanates.
- The time of the day or night the noise occurs.
- The duration of the noise.
- Whether the noise is recurrent, intermittent, or constant.

NOISE CONTROL

In all cases of offensive noise levels there is a noise source and receiver and, between them, a path of noise transmission. The following briefly describes procedures which can be taken to reduce noise transmitted between the source and the receiver.

CONTROL THE NOISE AT THE SOURCE

- Redesign the source. Treating noise at the source is the most desirable approach.
- Substitute a less noisy source.
- Enclose or surround the source with sound absorbent material.

INTERRUPT THE PATH

- Impose solid barriers between noise sources and receivers. In ascending order of effectiveness, some examples are:
    * Wood wall.
    * Stucco wall.
    * Earth wall or berm.
    * Concrete block wall.
    * Reinforced concrete.
- Separate noise sources from receivers by a distance sufficient enough to decrease noise to acceptable levels.

ENCLOSE THE RECEIVER

Results can be achieved by enclosing receivers of noise in accoustical enclosures. Requiring people to live this way should be considered a last resort in protecting them from noise.

TIME USE PLANNING

If possible, schedule noisy operations at times when people are least likely to be disturbed.

ZONING

The City's use of zoning powers can be effective where it reduces the number of persons exposed to noise by regulating building height, bulk, density and location.

POLICIES TO ATTENUATE NOISE

FREEWAY TRAFFIC NOISE

In order to reduce the noise intrusion from freeways the City should:

- Adequately zone land adjacent to freeways for non-residential purposes or for residential uses with appropriate noise reduction design.
- Continue research on noise barrier design and develop more sophisticated noise reduction techniques.
- Protect adjacent noise sensitive buildings and land uses through appropriate means such as design, barriers, etc.
- Coordinate the City's efforts with highway agencies by providing predicted traffic noise levels and assisting in the establishment of compatible zoning when requested.
- Wherever possible, airports, freeways, and other noisy commercial activities should be separated from residences a distance sufficient to lessen noise encroachment.

AIRCRAFT NOISE

Milpitas' exposure to aircraft flyovers is limited to about two or three annoyances per month. Although aircraft noise is not now a significant noise problem, the City should continue to be vigilant in this regard. The community has also stated its concern through the adoption of a community goal strongly opposing the San Jose Airport (Agnew site). The potential adverse effects of aircraft noise should be evaluated at an early stage, and, therefore, the City must maintain a proper liaison with those agencies having jurisdiction over aircraft noise.

COMMUNITY

Environmental noise limits, based on prevention of the harmful affects of noise on people, should be developed by the local government for all significant noise-making devices.

MUNICIPAL SERVICES

The City should limit the hours during which significant noise generating activities are carried out. Before the City purchases new equipment, it should be sure that it is in compliance with acceptable local noise standards.

The City should consider development of "quiet zones" in special areas of the City, perhaps in already existing recreational areas. All forms of noise would be controlled so that people could enjoy solitude as part of their recreational leisure.

COORDINATION OF GOVERNMENT

The City of Milpitas should promote coordination of governmental agencies dealing with noise, take part in reviewing noise considerations for the activities of these agencies, and review its own activities to determine those areas where noise can or should be reduced. The City should contact state and federal officials to convey their concern over noise problems and encourage residents to do the same. The City in conjunction with other local agencies should evaluate federal legislation which requires noise standards on household and industrial equipment. If the City feels these standards are inadequate in reducing noise levels, it should appeal to strengthen these standards and, if the law permits, adopt more stringent standards.

EDUCATION

The City, together with its citizens, should conduct an educational campaign to inform the public of the dangers of noise and the actions each person can take to help reduce noise pollution.

MUNICIPAL LEGISLATIVE ACTIONS

In accordance with adopted State guidelines, the City should develop and adopt noise codes, regulations, and standards in conformance with the findings of this general plan element. Certain general plan elements, such as Land Use and Circulation, may have to be modified by the City so as to conform with acceptable noise levels of the area involved.

NOISE LEVEL STANDARDS

Using the 1390.2 H.U.D. Standard, the maximum noise levels of Milpitas are suggested to be:

	dBA MAX
1. Motels, hotels, public meeting rooms, schools, churches, libraries, picnic areas, parks, and playgrounds (exterior) (L10*) daytime	70
2. Commercial and industrial areas (exterior) (L10*)	70
3. Hospitals and Resthomes (exterior) (L10*) daytime	55
4. Sleeping quarters (Maximum noise level for no more than 60 minutes in any 24 hour period) (interior)	55
5. Sleeping quarters (Maximum noise level for no more than 30 minutes during nighttime sleeping hours) (interior) between 11 P.M. and 7 A.M.	45
6. Sleeping quarters (Maximum noise level for an accumulation of 8 hours in any 24 hour day) (interior)	45
7. City parks when using amplified sound of 25 or more watts at 50 feet from the speaker for not more than 4 hours (daytime)	95

Note: Items 4, 5, 6 approximate L10* 65 dBA at peak periods!

Therefore, areas of specific concern to Milpitas are residential areas existing or proposed, which exceed peak period dBA level of 65 dBA.

*L10 = Sound level exceeded ten percent of the time.

NOISE CONTOUR MAPS

The following noise contour study maps for selected areas of the City show predicted noise levels for the existing community and the predicted 1995 (future) levels.

1. Methods used to determine contours are based on federally approved methods -

   a. National Cooperative Highway Research Report NO. 117.

   b. FHWA Department of Transportation Report No. POT-TSC-FHWA-72-2

2. Contours shown are values given in decibels (A Scale) exceeded 10% of the time (L10).

3. Traffic volumes for existing conditions are based on 1973 status and most recent truck count. Traffic volumes for future traffic prediction are based 1995 demand values.

4. Attenuation not considered for buildings, walls or other structures outside of the highway right-of-way. Variations due to local traffic noise emanating from outside the highway right-of-way are also not considered.

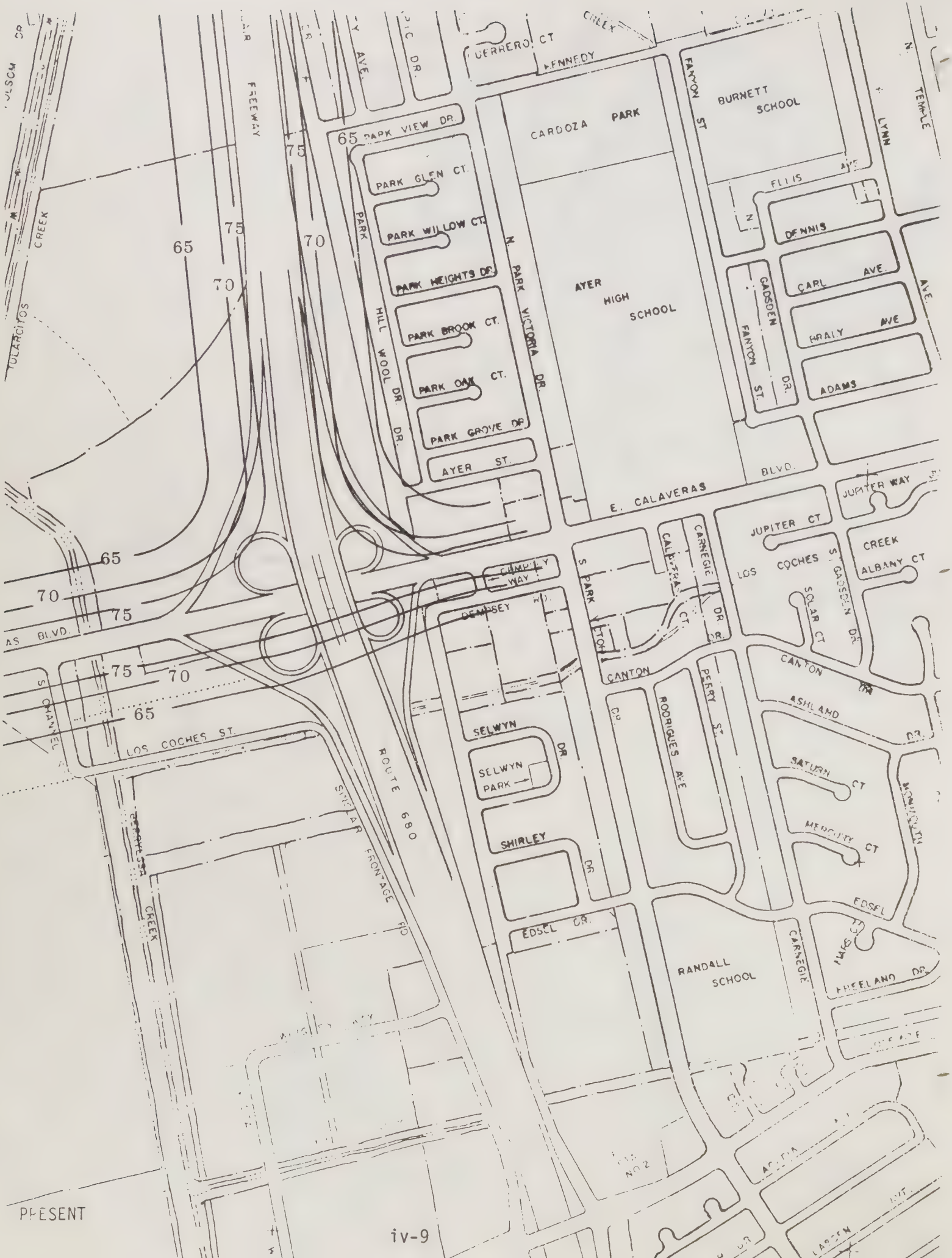
5. Contours are subject to a range of $\pm$ 3 dBA.

6. Noise contours pursuant to Section 65302 (g) of the California State Government Code.


Noise attenuation wall
COLUMBUS CIR.
FOUNDERS LN
NIEVES CT.
NIEVES ST.
RUSSELL LN
KIZER ST.
PARK
RIVERA ST
HEFLIN ST
HORCAJO ST
TICE DR
HILLVIEW DR
COLUMBUS DR W
CALERA COLUMBUS DR
MACALEN DR
70
65
75
JACKSON FRD.
CALLE
ORIENTE
TRAMVIEW ST
SCHOOL SITE
WALTER REUTHER PARK
CLAUSER DR
PARVIN DR
SHOLEY DR
NYOMA PL
TRAMWAY DR
SOLANO FREEWAY
PRESENT

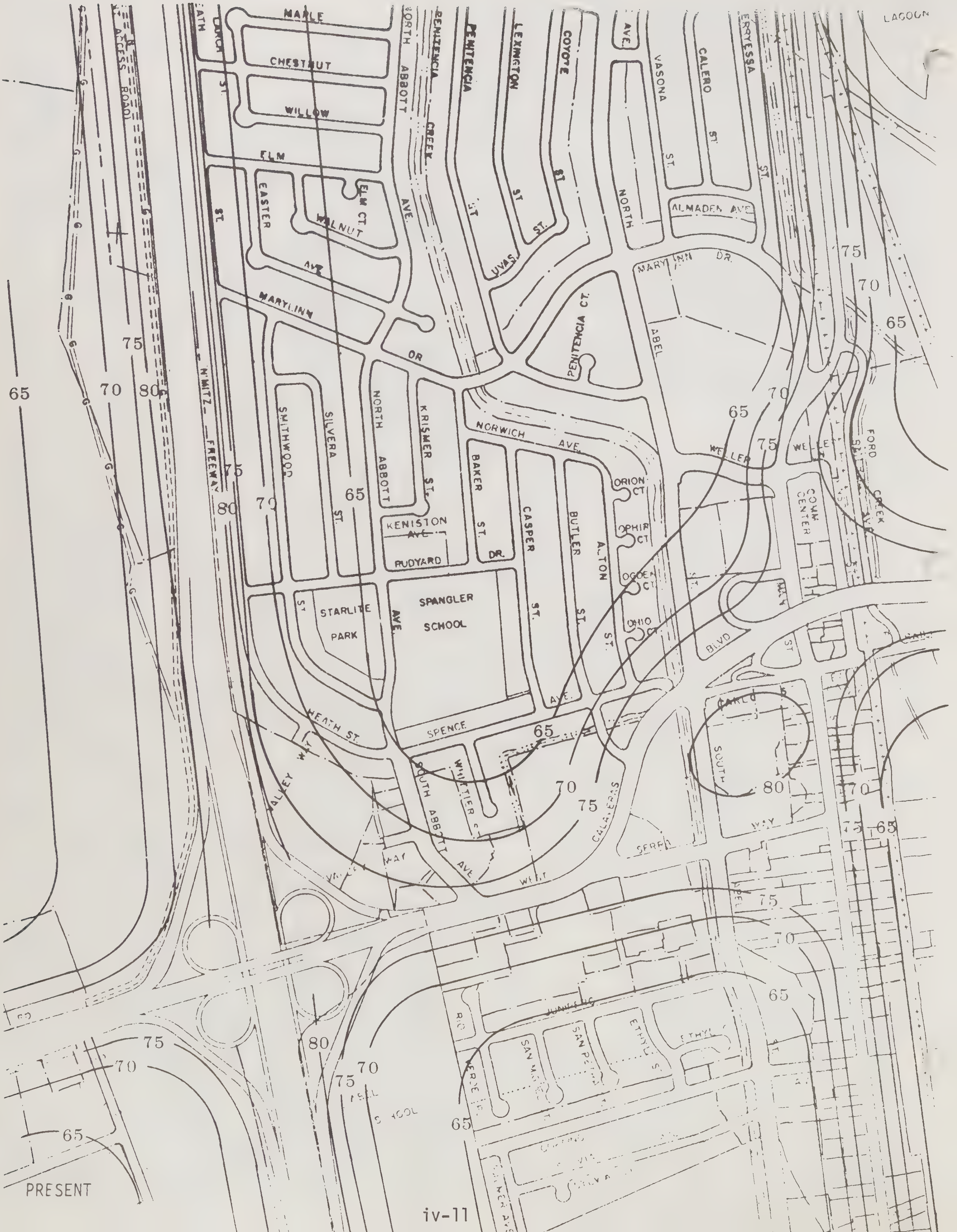

Noise attenuation wall
COLUMBUS CIR.
FOUNDERS LN
NIEVES CT.
NIEVES ST.
MACALEN DR.
CALERA COLUMBUS CR.
RUSSELL LN.
KIZER ST.
RIVERA ST.
HELEN ST.
HORCASO ST.
PARK
65
70
75
SCHOOL SITE
CALLE
SCHOOL

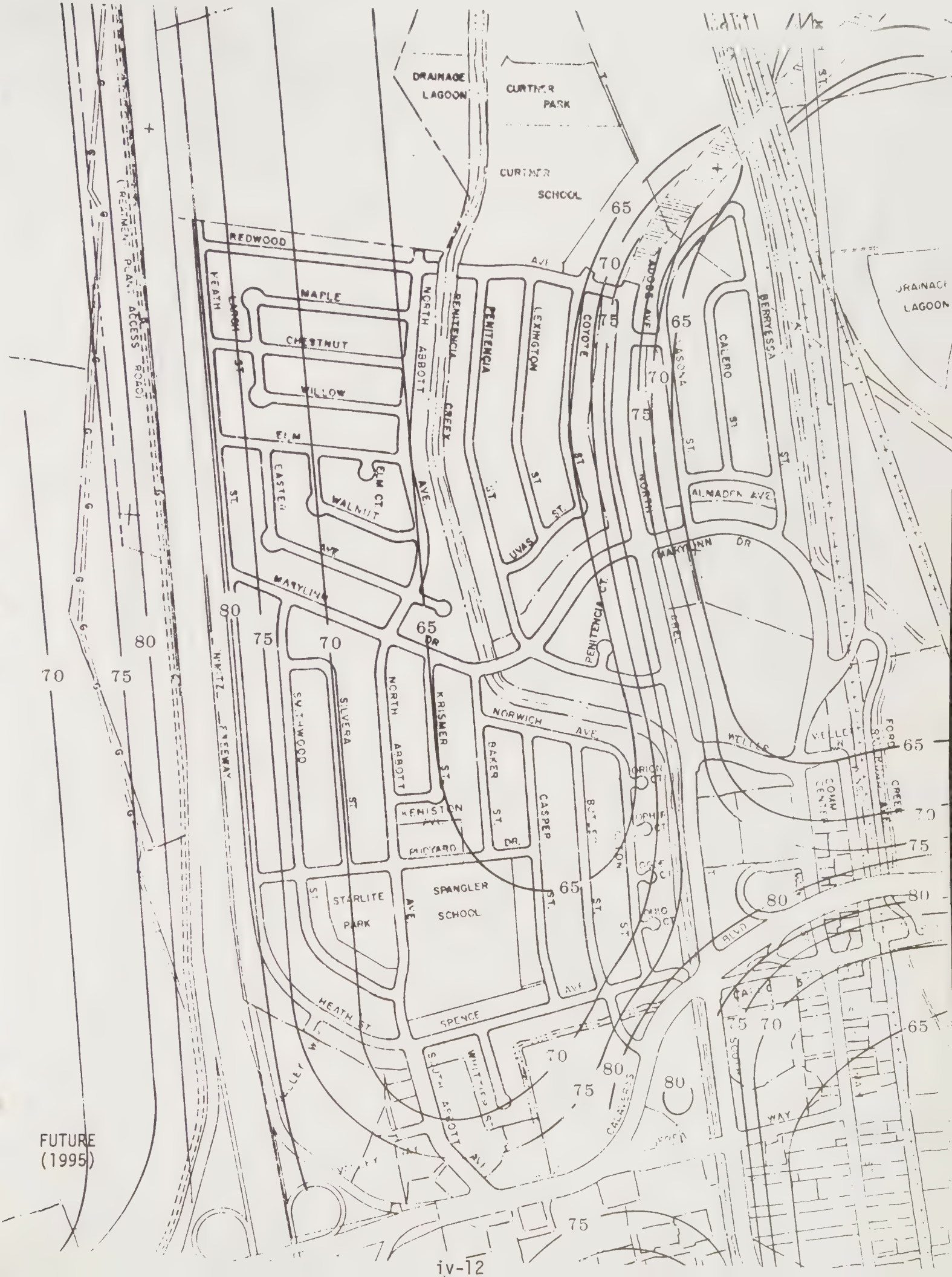
FUTURE
(1995)


CREEK
FREEWAY
AVE.
DR.
CREEK
KENNEDY
BURNETT SCHOOL
FANYON ST.
LYNN
TEMPLE
ELLIS AVE.
DENNIS
CARL AVE.
HRALY AVE
ADAMS
BLVD.
JUPITER WAY
JUPITER CT
CREEK
ALBANY CT
LOS COCHES
SOLAR CT
GADSDEN DR.
CANTON
ASHLAND DR.
SATURN CT
MERCURY CT
EDSEL
WHEELAND DR.
CARNEGIE
PERRY ST.
RODRIGUES AVE
RANDALL SCHOOL
SELWYN DR
SELWYN PARK
SHIRLEY DR
EDSEL DR.
DEMPSEY RD.
CAMPBELL WAY
S. PARK VICTORIA DR.
CALLE TRAL CT.
CARNEGIE DR.
PARK VIEW DR.
PARK GLEN CT.
PARK WILLOW CT.
PARK HEIGHTS DR.
PARK BROOK CT.
PARK OAK CT.
PARK GROVE DR.
AYER ST.
HILLWOOD DR.
N. PARK VICTORIA DR.
AYER HIGH SCHOOL
CARDOZA PARK
E. CALAVERAS
LOS COCHES ST.
ROUTE 680
SERVICE FRONTAGE RD
65
70
75

PRESENT


75
65
70
PARK DR
PARK GROVE DR
AYER ST
E. CALAVERAS BLVD
JUPITER CT.
JUPITER WAY
CREEK
ALBANY CT
LOS COCHES
S. GARDNER DR
SCHAR CT
CANTON
ASHLAND
SATURN CT
MERCURY CT
PERRY ST
RODRIGUES AVE
SELWYN
SELWYN PARK
SHIRLEY
ROUTE 680
SOUTER FRONTAGE RD.
RANDALL SCHOOL
YOSEMITE
ADAMS
Depressed freeway section
AMES AVE
PLATT
FUTURE
(1995)


MAPLE
CHESTNUT
WILLOW
ELM
LOCH ST.
ACCESS ROAD
NORTH ABBOTT AVE.
PENITENCIA CREEK
PENITENCIA ST
LEXINGTON ST
COYOTE ST
UVAS ST.
VASONA ST.
CALERO ST.
BERRYESSA ST.
LAGOON
NORTH
ALMADEN AVE.
MARYLINN DR.
ELM CT.
WALNUT
EASTER AVE
MARYLINN DR
PENITENCIA CT.
ABEL
NIMITZ FREEWAY
SMITHWOOD
SILVERA ST.
NORTH ABBOTT
KRISMER ST.
NORWICH AVE.
WELLER
BAKER ST. DR.
CASPER ST.
BUTLER ST.
ALTON ST.
ORION CT
OPHIR CT
OGDEN CT
OHIO CT
COMM CENTER
FORD
CREEK
KENISTON AVE
RUDYARD
STARLITE PARK
SPANGLER SCHOOL
BLVD
HEATH ST.
SPENCE AVE.
VALLEY WAY
SOUTH ABBOTT AVE.
WHITTIER
CALAVERAS
CARLO
SOUTH
WAY
SERRA
WEST
RIO VERDE
SAN MATEO
SAN PEDRO
ETHYL ST.
ETHYL
SCHOOL
PRESENT
65
70
75
80


DRAINAGE LAGOON
CURTNER PARK
CURTNER SCHOOL
REDWOOD AVE
MAPLE
CHESTNUT
WILLOW
ELM
WALNUT
MARYLIN
PENITENCIA CREEK
ABBOTT AVE
NORTH ABBOTT
PENITENCIA
LEXINGTON
COYOTE
CALERO ST
BERRYESSA
ALMADEN AVE
MARYLINN DR
NORWICH AVE
KENISTON
PINYARD
SPANGLER SCHOOL
STARLITE PARK
HEATH ST
SPENCE
SILVERA
KRISMER ST
BAKER ST
CASPER
SYCAMORE
EASTERN
65
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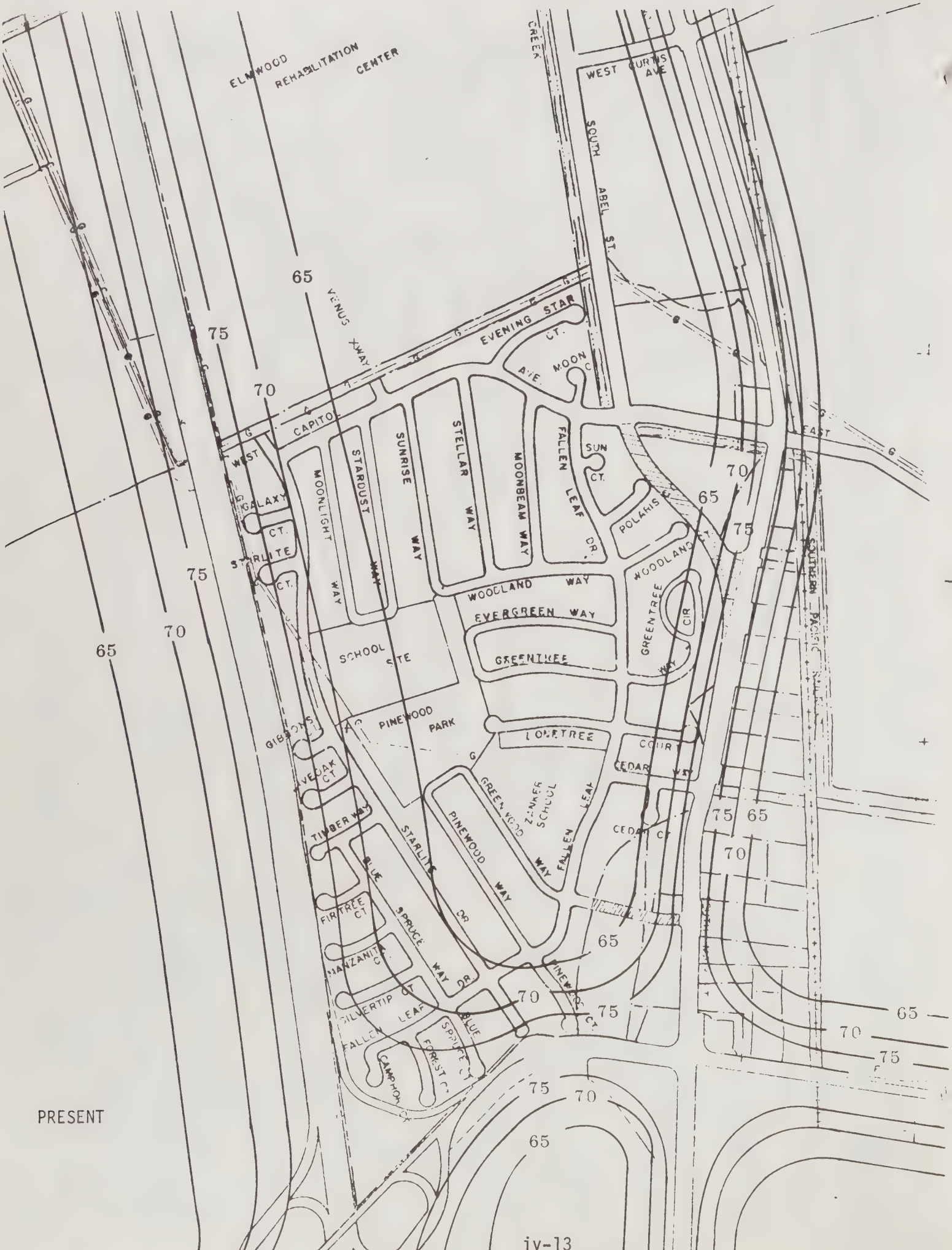
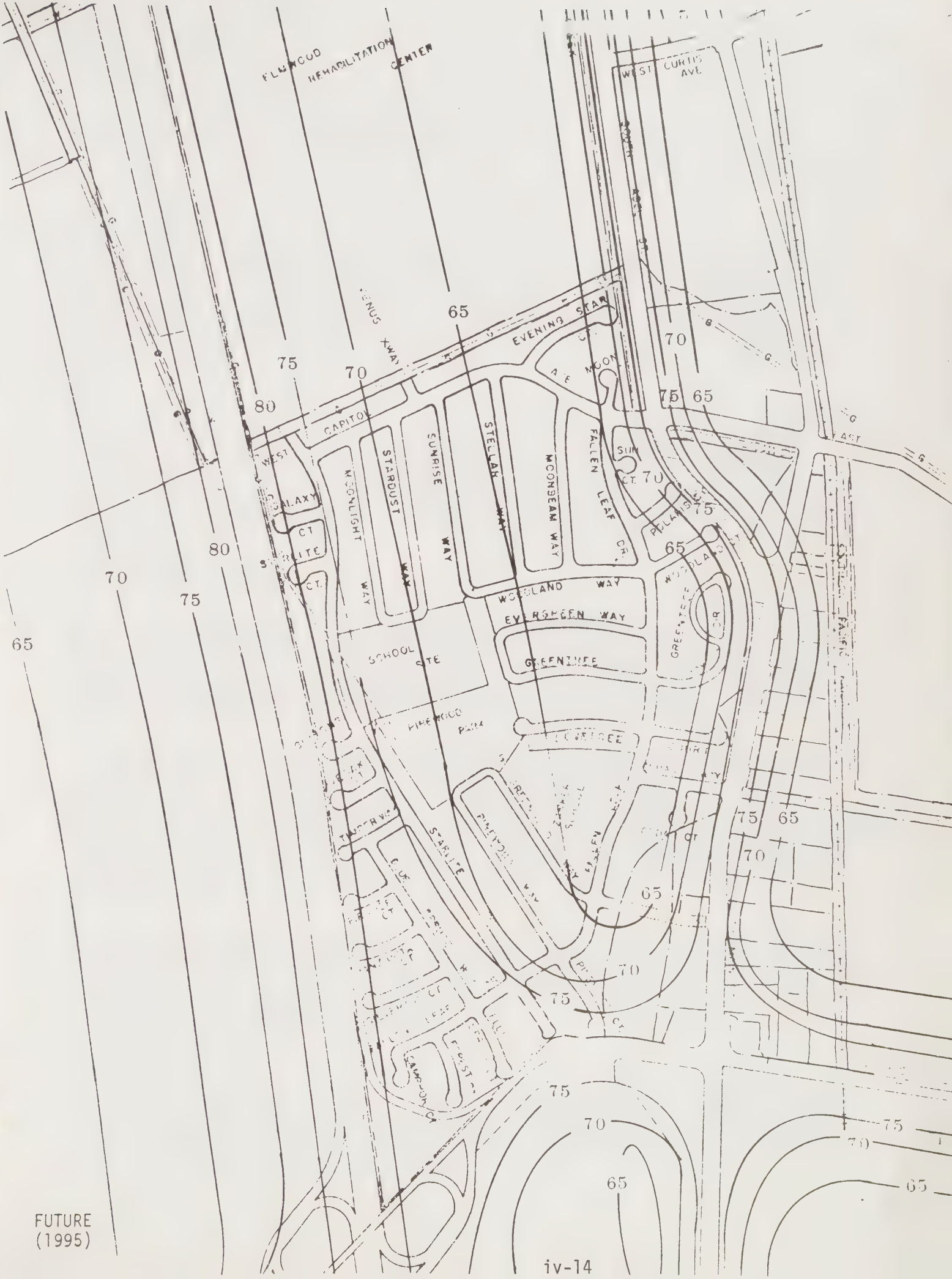
FUTURE (1995)


ELMWOOD REHABILITATION CENTER
WEST CURTIS AVE
SOUTH ABEL ST.
EVENING STAR
VENUS WAY
CAPITOL
WEST
EAST
MOON CT.
AVE
SUN CT.
POLARIS
WOODLAND CT.
WOODLAND WAY
EVERGREEN WAY
GREENTREE
GREENTREE CIR
WAY
SCHOOL SITE
PINEWOOD PARK
LONETREE
COURT
CEDAR WAY
CEDAR CT.
GREENWOOD
ZENNER SCHOOL
FALLEN LEAF
PINEWOOD WAY
STARLITE DR.
BLUE SPRUCE WAY
DR.
PINEWOOD CT.
BLUE SPRUCE CT.
FOREST CT.
CAMPHOR CT.
MANZANITA CT.
SILVERTIP
FALLEN LEAF
FIRTREE CT.
TIMBER WAY
VEDAK CT.
GIBSONS CT.
STARDUST WAY
MOONLIGHT WAY
STARLITE CT.
GALAXY CT.
SUNRISE WAY
STELLAR WAY
MOONBEAM WAY
FALLEN LEAF DR.
65
70
75

PRESENT


FLOWOOD REHABILITATION CENTER
WEST CORTIS AVE.
VENUS XWAY
EVENING STAR
CAPITOL
WEST
GALAXY
CT
SITE
CT.
MOONLIGHT WAY
STARDUST WAY
SUNRISE WAY
STELLAR WAY
MOONBEAM WAY
FALLEN LEAF
SUN CT.
PELHAM
WOODLAND WAY
EVERGREEN WAY
GREENTREE
SCHOOL SITE
PINEWOOD PARK
STARLITE
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FUTURE
(1995)

V. SEISMIC AND SAFETY ELEMENT
(Adopted February 1975)

INTRODUCTION

The Seismic and Safety Element has grown out of an increasing awareness of the risk to life and property from seismic and other geologic and non-geologic hazards. The state mandated seismic safety element and safety element have been combined as major sections in the Seismic and Safety Element of the Milpitas General Development Plan due to the overlay of concerns between the two elements.

GOAL

The goal of this Seismic and Safety Element is to consider geologic and other life safety hazards in the adoption or amendment to any portion of the General Development Plan. This specific consideration will ultimately lead to the adoption of policies and ordinances which will reduce the risk of the loss of life and property, and social and econmic dislocation resulting from natural or man-made disasters.

THE EARTHQUAKE PROBLEM

Natural occurrences, such as earthquakes, forcibly remind us that we live on an active and changing planet. A firm understanding of geologic processes must precede regulations to minimize earthquake hazards. The state-of-the art does not now and may never permit the formulation of codes that will eliminate all possible risks related to earthquakes. The fact that earthquakes will occur in California must be realized by all persons who choose to live here.[1]

In the Bay Area the San Andreas and portions of the Calaveras and Hayward faults are considered to be active (i.e., having shown seismic activity in the last 11,000 years). On many segments of the Calaveras and Hayward faults (as well as their branch faults) intervening geologic activity has obscured the precise dating of the fault. In nearly every case these are considered to be potentially active and dated at less than 3 million years since the last movement along the trace. This is also true where inferred extensions of the fault traces can be expressed.

Although surface ground rupture resulting from earthquakes of larger magnitudes can cause severe structural damage, the area affected by such rupture is only a small fraction of the total area affected by ground shaking. In most cases, it is actually the ground shaking rather than ground rupture along a fault trace that causes most damage in an earthquake.[2]

Secondary seismic effects can be defined as follows:

- Liquefaction can occur in certain types of saturated sands and silts. Shaking during an earthquake can cause these soils to lose all their cohesive strength, to become "quick" and unable to bear the weight of overlying soils and structures.

- Lurch cracking is the development, usually temporary, of all types and sizes of cracks and fissures in the ground during an earthquake.

- Lateral spreading is the movement of loose soils over low angle slopes (less than 5%) into open areas during an earthquake.

- Local subsidence can occur during an earthquake when ground shaking drives water out of saturated soils, causing them to become dense and more compact. This can result in differential settlement of structures.

- Landslides and falls of loose rocks and soils can result from ground shaking during an earthquake.

- Structural damage due to ground vibration is caused by the transmission of earthquake vibrations from the ground into structures. The variables which determine the extent of damage are:

    * The characteristics of the underlying soils and/or rocks.

    * The design and configuration of the structure.

    * The quality of materials and workmanship used in construction.

    * The location of the epicenter and magnitude of the earthquake.

    * The duration and intensity of ground shaking.

  The potential for structural damage due to ground vibration is greatest in the areas of saturated soils and least in the hard bedrock areas of the hills.

- A seiche is an oscillating wave in an enclosed or restricted body of water, generated by ground motion during an earthquake. It can cause overflow of a lake, reservoir, lagoon, etc., and inundation of the surrounding area.

- A tsunami is a high ocean wave generated by a submarine earthquake. Such an event in the Pacific Ocean could create a temporary rise of the waters in San Francisco Bay.[3]

OTHER GEOLOGIC HAZARDS

In addition to seismic induced hazards other geologic hazards must be considered as they relate to urban development. These other geologic hazards include landslides and slope stability, expansive soils, and erosion.

LANDSLIDES AND SLOPE STABILITY

Landslides occur when the pull of gravity on earth materials overcomes their frictional resistance to downslope movement. Slope stability is affected by:

- Type of earth materials -- unconsolidated, soft sediments or surficial deposits will move downslope easier than consolidated, hard bedrock.

- Structural properties of earth materials -- the orientation of the layering of some rocks and sediments relative to slope directions, as well as the extent and type of fracturing and crushing of the materials, will affect landslide potential.

- Steepness of slopes -- landslides occur more readily on steeper slopes.

- Water -- landsliding is generally more frequent in areas of seasonally high rainfall, because the addition of water to earth materials commonly decreases their resistance to sliding.

- Ground shaking -- strong shaking during earthquakes can jar and loosen bedrock and surficial materials, thus making them less stable.

- Type of vegetation -- trees with deep penetration roots tend to hold bedrock and surficial deposits together, thereby increasing ground stability.

- Proximity to areas undergoing active erosion -- rapid undercutting and downcutting along stream courses and shorelines makes slopes in these areas particularly susceptible to landsliding.

All the natural factors that promote landsliding are present in the Bay Region. In addition, man has at times decreased the potential for slope failures by leveling slopes, building retaining walls at the base of slopes, planting trees or seeding forests, as well as practicing soil conservation. However, other of his activities have increased the potential for slope failures, including: increasing slope angles for road or building construction; adding water to marginally stable slopes by watering lawns, improperly handling rain-water runoff, and choosing poor sites for septic tank drainfields; adding to the weight of marginally stable slopes by building structures as well as by adding fill for foundations; and removing natural vegetation.

Most landsliding takes place in areas where landsliding has occurred before, and old landslide deposits are commonly reactivated by either natural or artifical means. The materials that form landslide deposits may be so broken up and disturbed that landsliding may easily recur, especially if slope angles or moisture contents are changed. Landslide deposits are characterized by:

- Small isolated ponds, lakes, and other closed depressions.

- Abundant natural springs.

- Hummocky irregular surfaces.

- Smaller landslide deposits that are commonly younger and form within older and larger landslide deposits.

- Steep, accute scarps at the upper edge of the deposit.

- Irregular soil and vegetation patterns.

- Disturbed vegetation.

- Abundant flat areas that might appear suitable as construction sites.

In general, fewer of these characteristics will be noted in the smaller deposits. Detailed ground studies are required for predicting the future behavior of landslide deposits under changing conditions.[4] Figure V-1 illustrates typical landslide features.

EXPANSIVE SOILS

Expansive (shrink-swell) soils occur locally throughout California wherever relatively large percentages of clay minerals are present in the soil. Losses due to expansive soil can be eliminated completely if the condition is recognized before construction and foundations are properly engineered. Costs for corrective action before construction are small, but remedial action after construction may amount to 10% or more at the value of the structure.[5]

EROSION

Erosion is a normal and inevitable geologic process. However, under certain conditions, the rate of erosion can be greatly accelerated, creating esthetic and engineering problems. Losses due to erosion are sometimes difficult to separate from those due to flooding and landsliding. Within urban areas the major costs of erosion activity are in removing sediment from public and private drainage systems.[6] Problems of erosion may occur where there has been a disturbance in the natural vegetation and especially where the natural slope has been oversteepened by man or nature.[7]

LOCAL SEISMIC AND GEOLOGIC HAZARDS

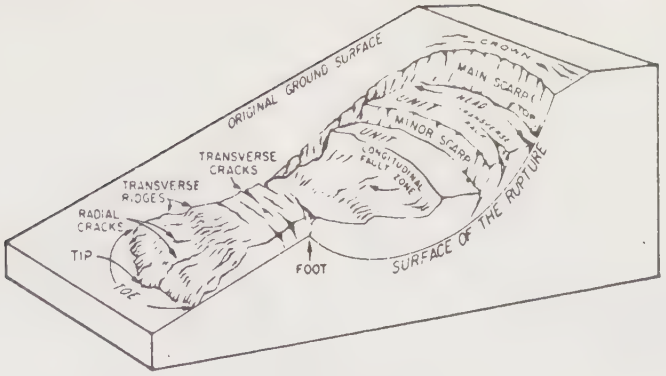
Milpitas can be divided into two distinct topographic areas, valley floor (flat land) and hillside. The valley floor constitutes approximately the western 60% of the City's "Sphere of Influence," and the hillside the eastern 40%.[8]

VALLEY FLOOR GEOLOGY

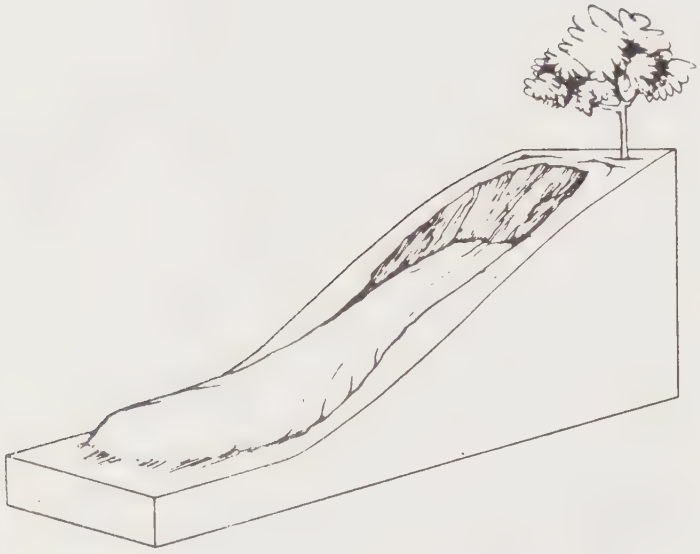
The valley floor has been the site of at least two periods of alluvial fan development. Figure V-2 shows the character and distribution of several types of geologically young formations in the Milpitas valley floor. Elevations range from six feet in the northwest to near 200 feet in the southeast.

Beginning at the base of the foothills the deposits range from older fans (Qof) of course sand and gravel deposited by the Calera, Tularcitos, Los Coches and Berryessa Creeks. The central band of young interfluvial basin deposits (Qb) of mainly organically-rich clay and silty clay surrounds a limited deposit of older San Francisco Bay mud. (Qobm).

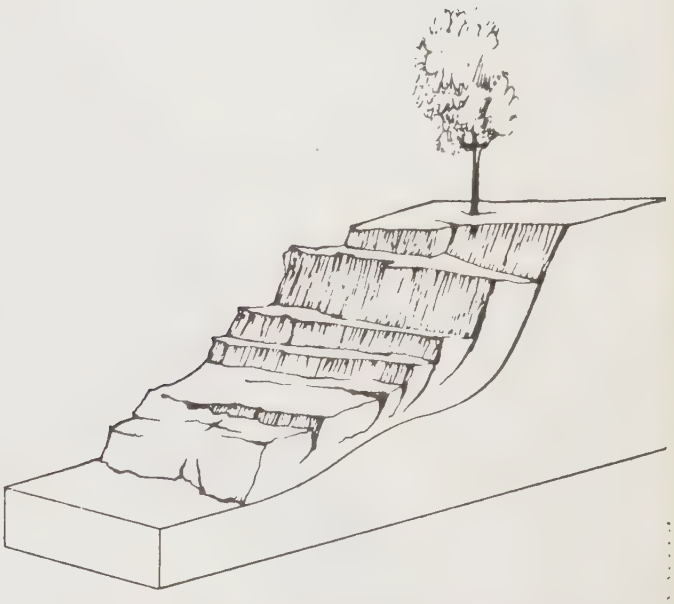
The western most geologic materials are fluvial deposits (Qyfo) of the Coyote Creek along the outer edges of the alluvial fan deposits (Qyf) of the Penitencia Creek.[9]



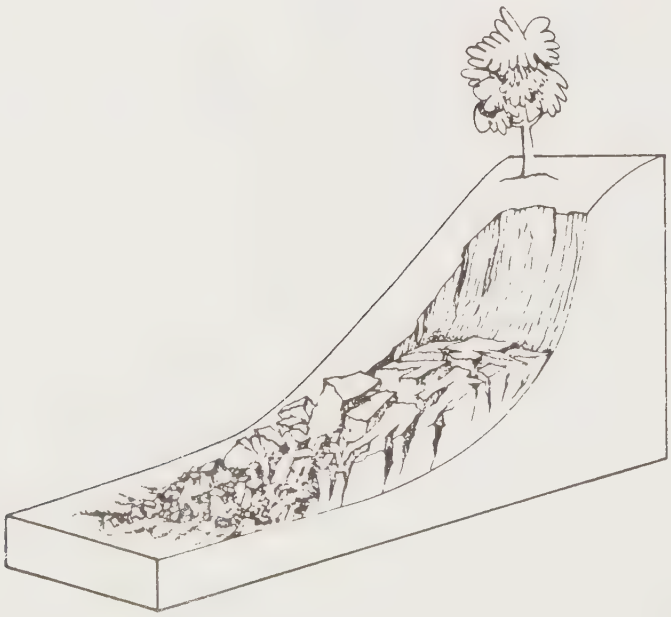
Nomenclature of parts of a landslide (from Eckel, 1958).



Earthflow: soil and other colluvial materials that move downslope in a manner similar to a viscous fluid.



Slump: coherent or intact masses that move downslope by rotational slip on surfaces that underlie as well as penetrate the landslide deposit.



Debris slide: incoherent or broken masses of rock and other debris that move downslope by sliding on a surface that underlies the deposit.

Rockfall: rock masses that move primarily by falling through the air.

Figure V-1

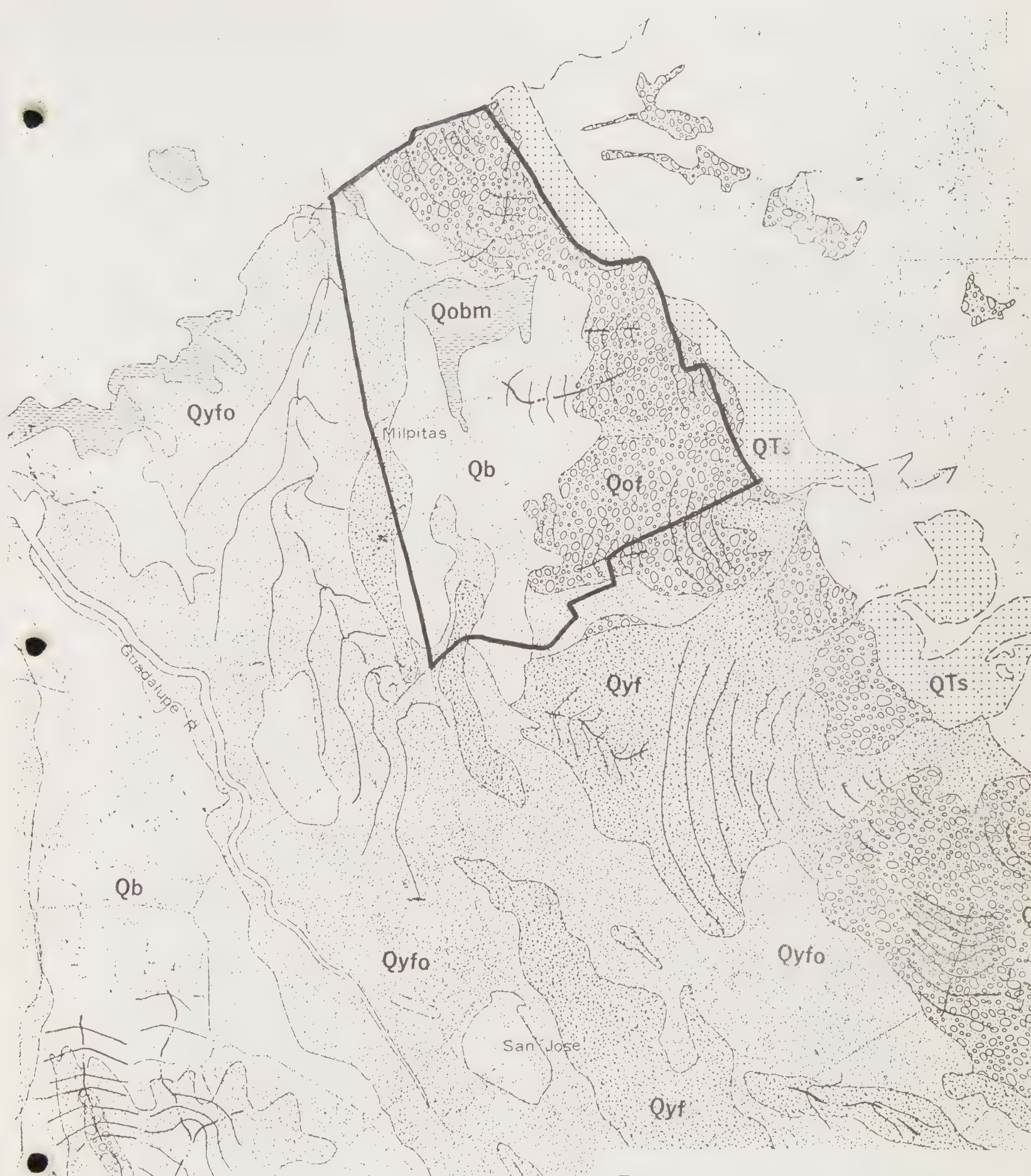


Figure V-2 GEOLOGICALLY YOUNG FORMATIONS IN THE MILPITAS VALLEY FLOOR AREA

HILLSIDE GEOLOGY

The hillside area consists of a series of parallel hills and valleys oriented generally northwest/southeast. Elevations range from 40 feet on Evans Road on the west to 2,337 feet in Los Buellis Hills, in the northeast corner.

The hillside topography is basically determined by the Turarcitos Syncline, the dominate geologic structure in the area, which was formed by intense folding. The generally folded and sheared character of the hillside area was created primarily by the uplift of the Diablo Range, and secondarily by seismic activity along the Hayward Fault Zone and Calaveras Fault Zone. Spring Valley, in the central portion of the area, lies on the axis of the Tularcitos Syncline, and the hills to the east and west are the limbs of the syncline. Figure V-3 shows an idealized cross-section of the City from west to east.[10]

SEISMIC AND SEISMIC INDUCED HAZARDS

The hillside area has been studied intensely to determine sufficient information on the geology for planning purposes. The report by Burkland and Associates entitled "Geologic and Seismic Hazards Investigation - Hillside Area, Milpitas"[11] describes in detail the information found. Many of the findings will be capsulized for use here, more detailed questions should be referred to the full report.

Faults and Fault Zones: A number of the faults pass through the general Milpitas area: the Calaveras Fault is located about 4-1/2 miles east of the City Hall, and the Hayward Fault about 1-1/2 miles east near the base of the foothills (see Figure V-4). Two major traces of the Hayward Fault traverse the lower foothills in a northwesterly to southeasterly direction. In addition, the Crosley Fault is noted as following the extreme westerly base of the foothills.[12] A postulated trace of the Hayward Fault extends into the alluvial deposits and southerly through the eastern valley floor.[13] This trace extends almost exclusively through developed residential areas of Milpitas.

Lurch Cracking and Lateral Spreading: Two factors appear to be necessary for the potential of lurch cracking and lateral spreading to occur: the soil must have a substantial shrink-swell potential and a "free face" must be available. In the Milpitas area the only available free faces are the flood control channels and other streams.

Liquefaction: The areas with the largest potential for liqufaction occur in saturated sandy soils which have been deposited by a major stream. Within the Milpitas area the Coyote River and Berryessa, Calera and Los Coches Creeks have contributed most substantially to the soils. The Qyfo deposit by the Coyote River and Calera Creek (Figure V-2) consists of various size soil particles of fine sand, silt, and silty clay. This area also has a high probability of ground water content due to its proximity to the bay and the general condition of the water table. This area should be considered as having a higher risk of liquefaction during earthquake shaking than adjoining areas.

SYMBOLS

Qal	Alluvium
Qsc	Santa Clara Formation
Tor	Orinda Formation
Tb	Briones Formation
Tm	Monterey Formation
Ku	Cretaceous Undifferentiated

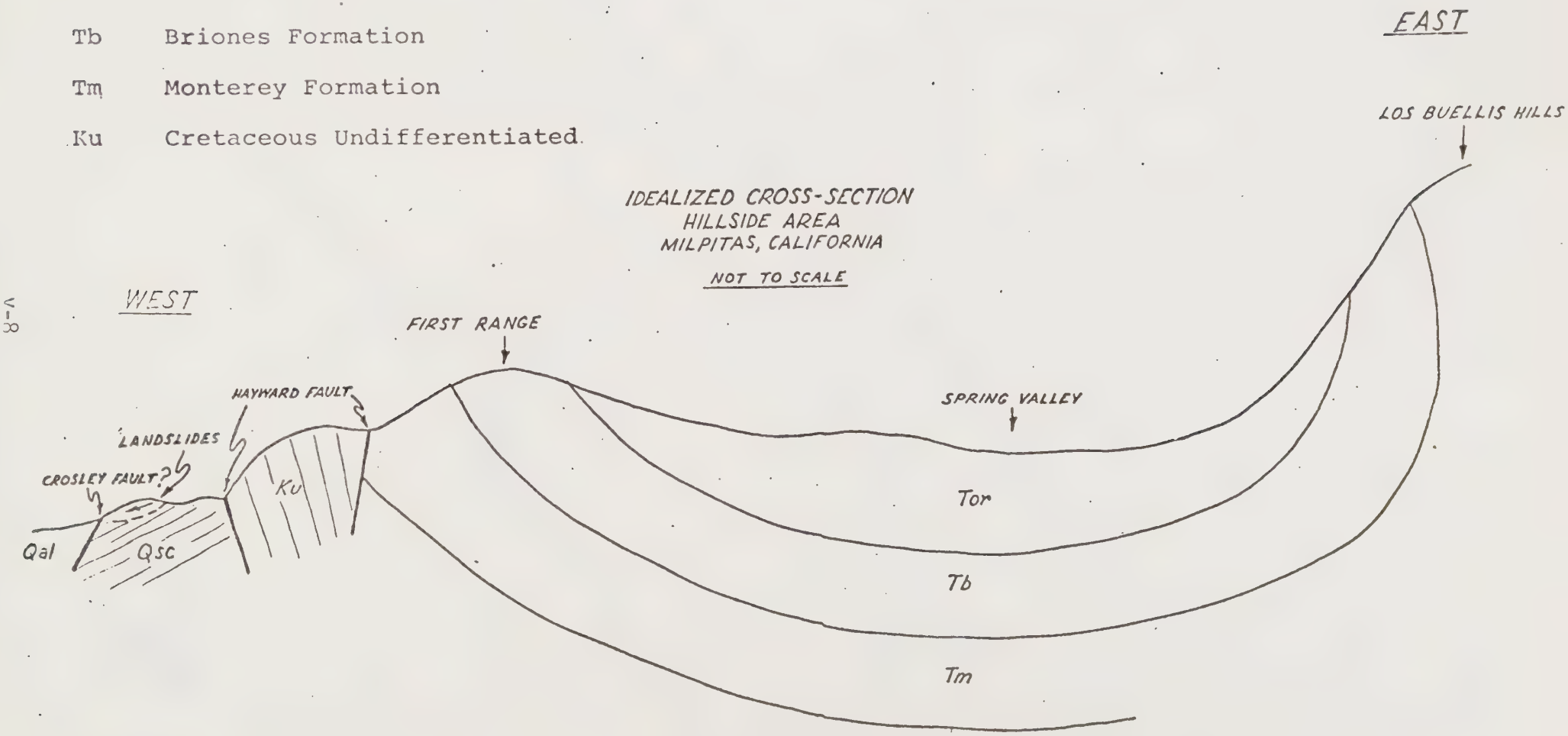


Figure V-3

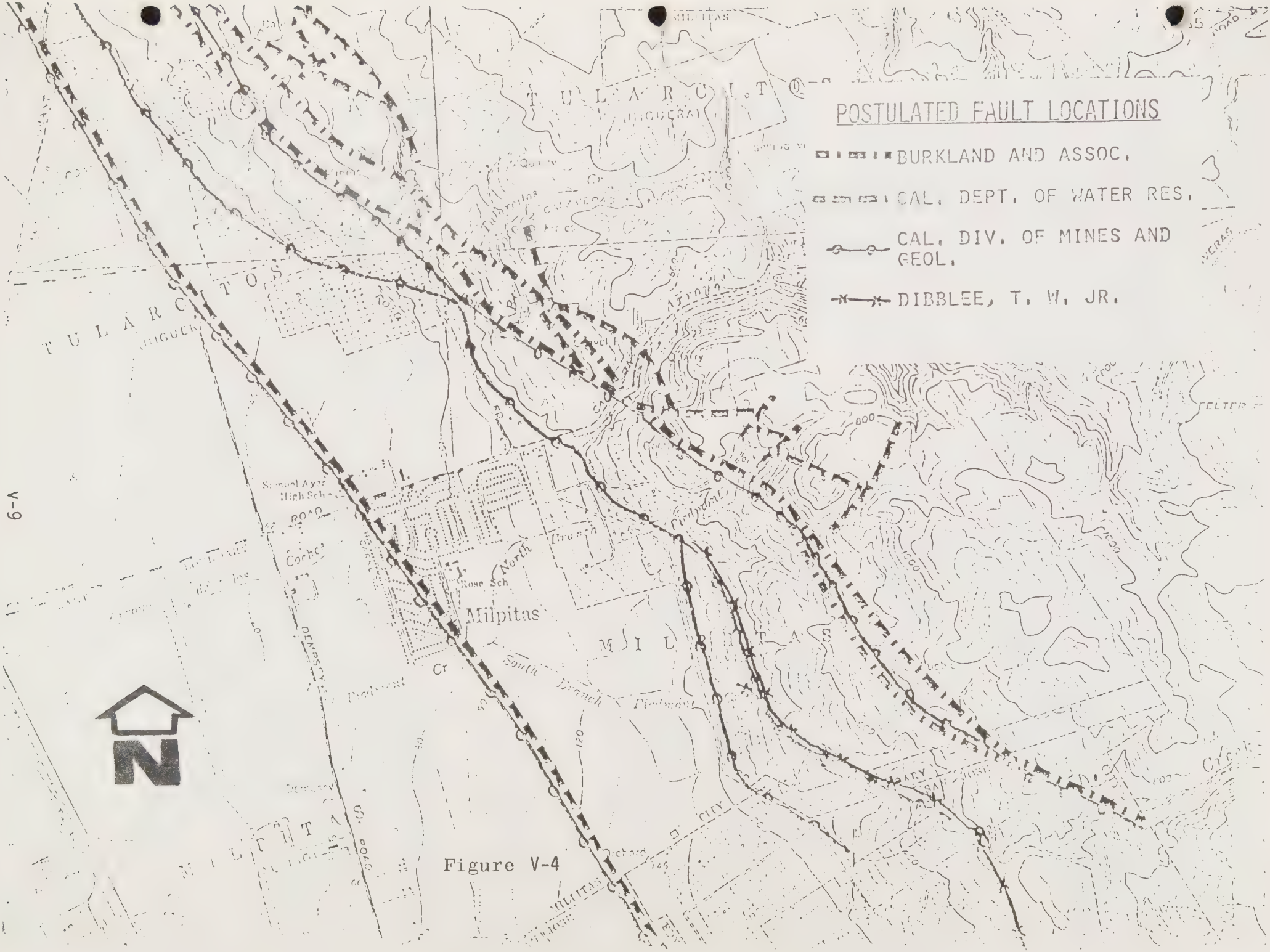

POSTULATED FAULT LOCATIONS
BURKLAND AND ASSOC.
CAL. DEPT. OF WATER RES.
CAL. DIV. OF MINES AND GEOL.
DIBBLEE, T. W. JR.
Milpitas
N

Figure V-4

Vibration Damage: The most common expression of earthquakes is ground shaking, a result of surface wave movement through the outer earth's crust. Its direction and velocity are directly related to the geological configuration of the earth's crustal material. Therefore proximity to the fault and/or area of initial subsurface rupture does not necessarily determine the intensity and duration of ground shaking. The type, configuration, depth, and density of the underlying soil and rock upon which a building is constructed will determine the maximum vibrational forces. The greatest amount of structural damage should be expected in those areas where geologic conditions prolong and accelerate the amplitude of seismic waves.

Buildings should be constructed to undergo severe shaking with minimal structural damage from vibrational forces and without collapsing. Buildings should also have systems (lighting, stairwells, communication, etc.) designed to remain functional under seismic conditions. The end result might be some structural damage, but no loss of life.[14]

Because of the complexity of the problem it is not possible to determine those precise locations in which vibration damage will occur. The structural designer must consider the effects of potential ground motion upon his building in order to minimize the effects. More emphasis should be stressed for buildings of public assembly, high-rises, and structures such as fire and police facilities which will be critically necessary following a severe shake.

Fortunately the existing construction within Milpitas is of recent vintage. The oldest structures range only to 20-25 years. Almost exclusively the residential construction is of wood frame design which has shown excellent resistance to vibration damage during earthquakes. Industrial buildings are all less than 20 years old with the majority less than 10.

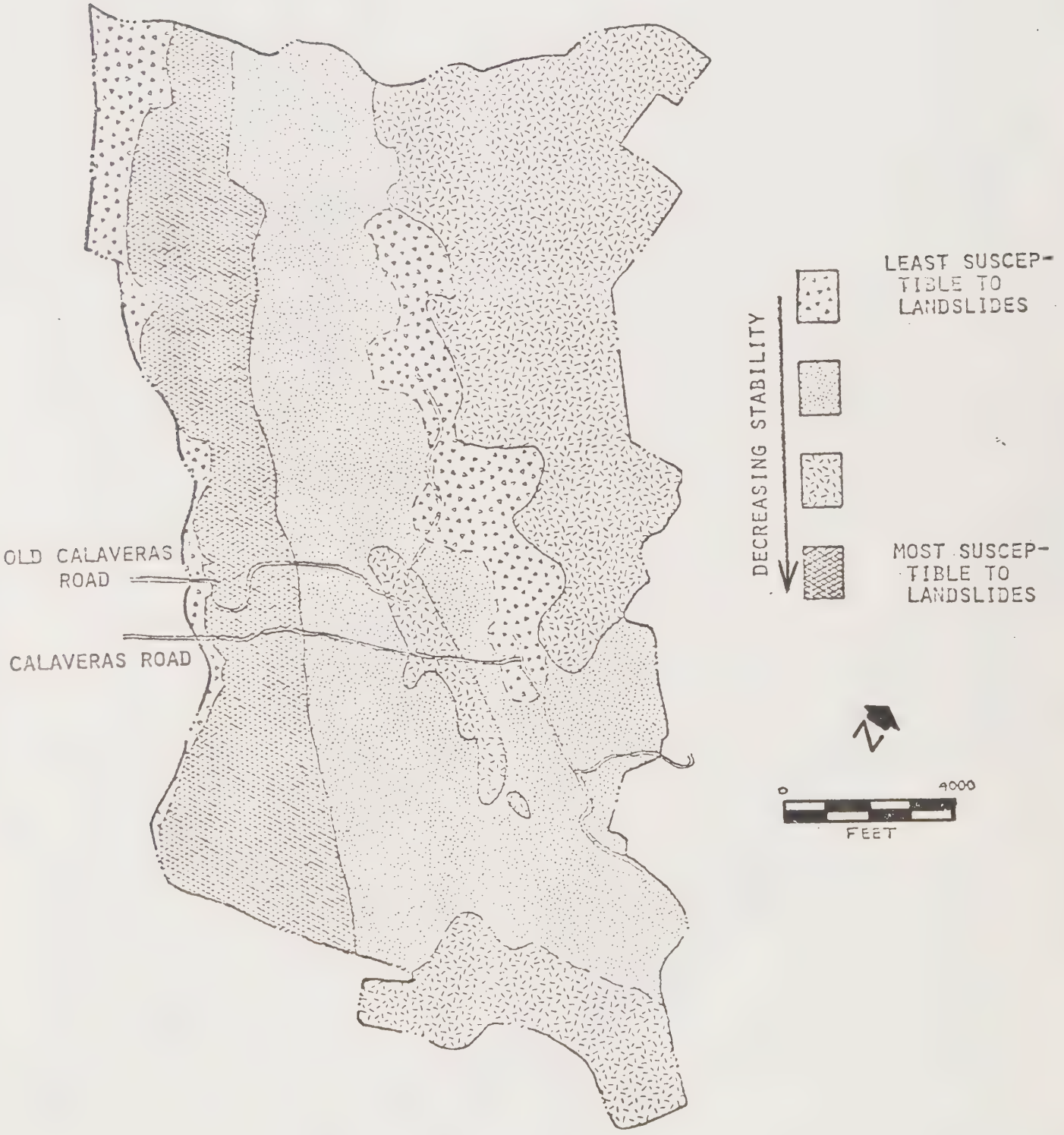
NON-SEISMIC GEOLOGIC HAZARDS

Expansive Soils: Much of the soil in the City has a potential for extensive shrink-swell Special care should be taken where construction is proposed in the areas noted for high shrink-swell.

Slope Stability - Landslides: Slope movement is present in all formations in the hillside area. Most of it is soil creep and slumps, but about 30% of the study area is actually involved in landslides. Figure V-5 indicates the landslide susceptibility of the Milpitas hillside area. About 90% of the slides are on west-facing slopes in two general areas. These areas are the Santa Clara (Qsc) and Cretaceous Undifferentiated (Ku) Formations in and adjacent to the Hayward Fault Zone, and where the Orinda Formation underlines the Briones Formation east of Spring Valley. The majority of these slides are ancient (over 200 years old), massive and complex. Their slide planes are estimated to be at depths in excess of 40 feet. Many of these slides contain more recent secondary slides. The remaining 10% of the landslides appear to be shallow, that is their slide planes are estimated to be about 15 feet deep. These slides are present in steep slopes of the Orinda (Tor) and Briones (Tb) Formations in Los Buellis Hills and along Scott and Berryessa Creeks, and Arroyo de los Choches. These findings are illustrated in Figure V-6 showing the geology of the hillside area.

Figure V-5 LANDSLIDE SUSCEPTIBILITY

MILPITAS, CALIFORNIA



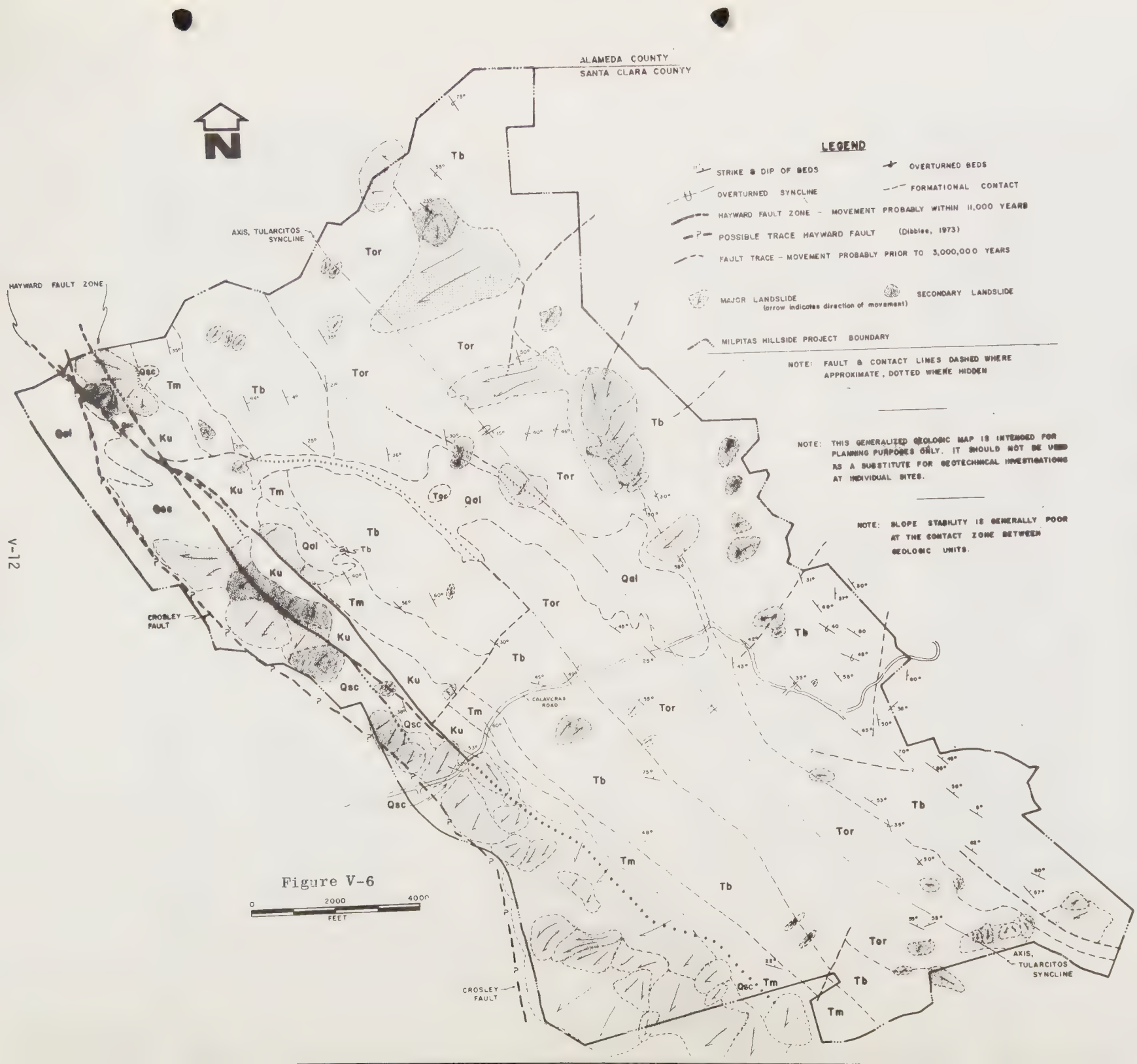


Figure V-6

GEOLOGY
MILPITAS
SANTA CLARA CO. CALIFORNIA
PREPARED BY:
BURKLAND & ASSOCIATES
CONSULTANTS IN ENGINEERING GEOLOGY
MOUNTAIN VIEW - SACRAMENTO - SAN DIEGO

Most of the ancient landslides appear to be stable under existing conditions. There are no known reports of movement, or damage to farm structures or orchards in the last 100 years. Generally, trees help to stablize landslides by dewatering them through transpiration and by the retaining strength of their roots. Removal of trees from a stablized landslide causes retention of water and raising of the groundwater table and accelerated erosion, both of which can result in reactivating the slide. Development in a landslide areas can result in reactivating it.

The depth to the slide plane has important implications for development. Grading, excavation, and other means of improving stability may be utilized to stabilize slides with shallow slide planes, but not those with deep slide planes. Detailed stability analyses should be conducted at all development sites where there are landslides, formational contracts, or geologic shear zones. Wherever existing slopes are to be modified, grading plans should be reviewed and cut-and-fill slopes inspected for stability during and after grading.

The following measures are available to minimize slope stability problems:

- Keep grading and excavation to a minimum; leave vegetation undisturbed wherever possible.
- Avoid oversteepening slopes, design cut-and-fill slopes 2:1 or flatter depending on local conditions.
- Utilize special grading designs such as buttressed fill in landslide-prone areas.
- Key compacted fill into underlying materials.
- Install drainage systems to divert surface runoff, groundwater, and springs away from slopes.
- Plant bare slopes with appropriate vegetation.
- Check accelerated erosion which can contribute to oversteepening of slopes.[15]

THE USE OF RISK IN DECISION MAKING

Natural hazards such as earthquakes, floods, and fires have produced significant amounts of damage and casualties in the past and they will probably continue to do so in the future. This creates a risk. Risk is defined as the chance of damage or injury occurring over some period of time. By identifying the risks associated with any proposed or existing project, program, or structure and comparing them with the risks of the alternatives planning decisions can be made. If risk reduction measures are adopted, there will be a reduced amount of damage and casualties over a given period of time.

In preparing for a decision, the degree of risk acceptable for the intended use of a structure must be considered because the "no-risk" condition is unattainable. With maximum citizen input "acceptable risk" should be determined.

Acceptable Risk: The level of risk below which no specific action by local government is deemed to be necessary.

Unacceptable Risk: Level of risk above which specific action by government is deemed to be necessary to protect life and property.

Avoidable Risk: Risk not necessary to take because individual or public goals can be achieved at the same or less total "cost" by other means without taking the risk.[16]

Differing degrees of acceptable risk should be assigned to various types of structures. Critical-use public facilities - such as hospitals, fire stations, police stations, emergency operating centers, water supply and storage facilities, and major power and communication complexes - are essential to post-disaster operations and must be designed and constructed to remain functional after a severe hazard. Therefore, an acceptable level of risk for these important facilities must be low. Provisions must be established to provide for this basic requirement through adequate earthquake-resistant designs based upon a detailed investigation for each site.[17]

CONSIDERATIONS IN RISK ANALYSES

The following considerations of risk are particularly important:

- Minimizing risk often results in higher cost.

- The concept of acceptable risk may seem strange but is actually part of the everyday life. All activities have some risk associated with them. Thus risk can only be understood when compared to other risks that are identifiable to the public, such as automobile accidents.

- There is a difference between the risks taken willingly by the public and those taken unwillingly. Unwilling risks should be lower than those taken willingly.

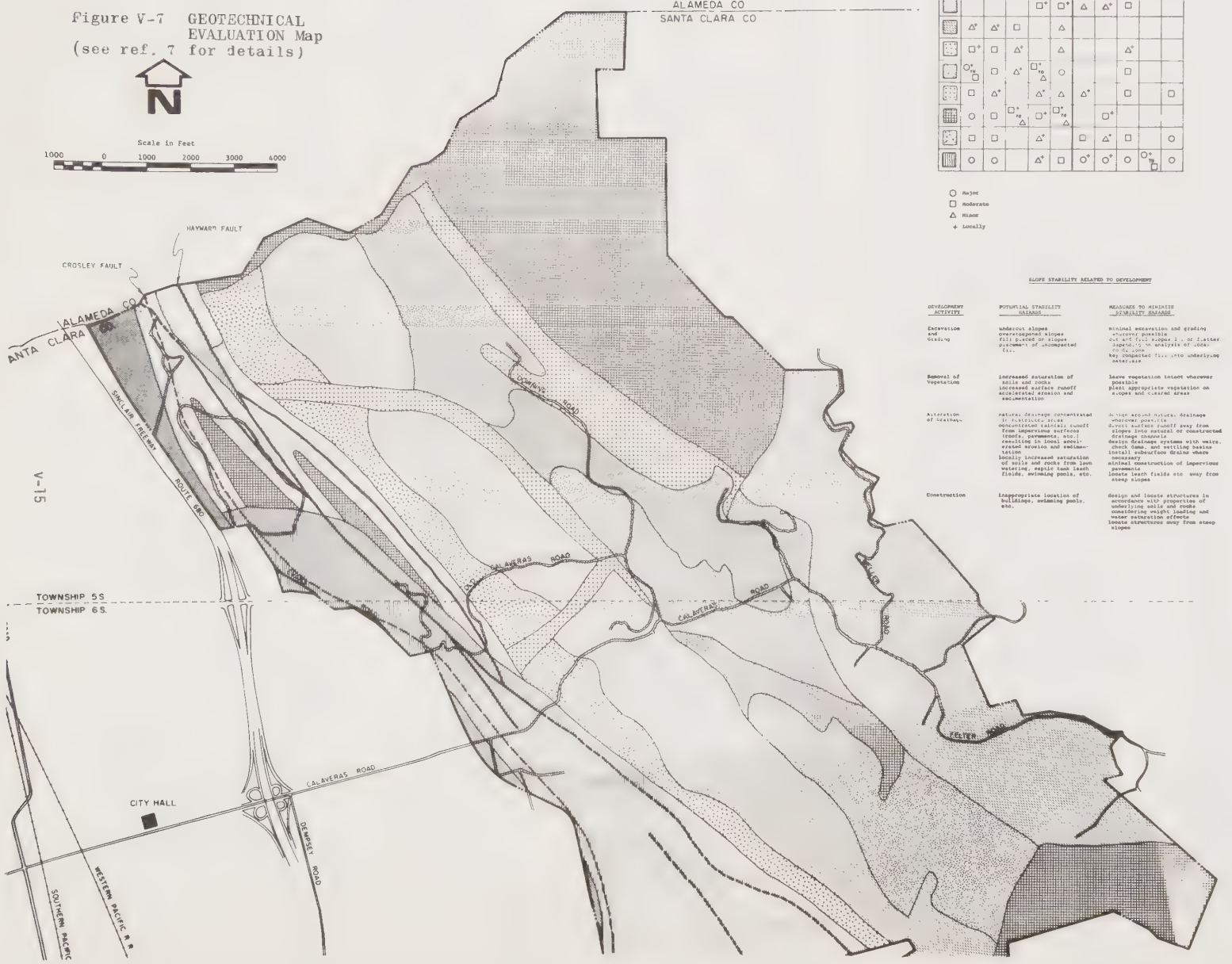
- There is a difference between those risks taken unknowingly by the public and those taken with full awareness. It is believed that everyone is entitled to full awareness of the risks they face.

- As much as possible the risks should be so balanced that those people receiving the benefit are also those undertaking the risk. This implies that no one should be subjected to an increased risk without receiving a corresponding increase in benefit.[18]

RISK ANALYSIS PLANNING FOR THE HILLSIDE AREA

The hillside area can be divided into eight areas on the basis of the nature of earth materials, and the presence and severity of geologic and seismic hazards in those areas. When considered in relation to development, these hazards can be defined as geotechnical problems. The GEOTECHNICAL EVALUATION Map (Figure V-7) delineates the distribution of the eight hazard areas. The RATING OF GEOTECHNICAL PROBLEMS Table rates the severity of the most significant problems in each of the mapped areas. With the exception of active faults, engineering techniques are available to mitigate all of these problems and reduce them to acceptable levels of risk for general development.

Figure V-7 GEOTECHNICAL EVALUATION Map
(see ref. 7 for details)



RATING OF GEOTECHNICAL PROBLEMS

SLOPE STABILITY RELATED TO DEVELOPMENT

DEVELOPMENT ACTIVITY	POTENTIAL STABILITY HAZARDS	MEASURES TO MINIMIZE STABILITY HAZARDS
Excavation and Grading	undercut slopes oversteepened slopes fill placed on slopes placement of uncompacted fill.	minimal excavation and grading wherever possible cut and fill slopes 2 : 1 or flatter depending on analysis of rock conditions key compacted fill into underlying materials
Removal of Vegetation	increased saturation of soils and rocks increased surface runoff accelerated erosion and sedimentation	leave vegetation intact wherever possible plant appropriate vegetation on slopes and cleared areas
Alteration of Drainage	natural drainage concentrated in restricted areas concentrated rainfall runoff from impervious surfaces (roofs, pavements, etc.) resulting in local accelerated erosion and sedimentation locally increased saturation of soils and rocks from lawn watering, septic tank leach fields, swimming pools, etc.	design around natural drainage wherever possible divert surface runoff away from slopes into natural or constructed drainage channels design drainage systems with weirs, check dams, and settling basins install subsurface drains where necessary minimal construction of impervious pavements locate leach fields etc away from steep slopes
Construction	inappropriate location of buildings, swimming pools, etc.	design and locate structures in accordance with properties of underlying soils and rocks considering weight loading and water saturation effects locate structures away from steep slopes

RECOMMENDED INVESTIGATIONS FOR BASIC TYPES OF DEVELOPMENT

MAP SYMBOL	RESIDENTIAL	HIGH RISE	CRITICAL STRUCTURES*	LIGHT COMMERCIAL	HEAVY INDUSTRIAL
	BC - R SF - R SW - R SC - R SL - R	BC - R SF - R SW - D SC - R SL - R	BC - R SF - R SW - D SC - R SL - R	SC - R SF - D SW - D SC - R SL - R	BC - R SF - D SW - D SC - R SL - R
	BW - R SF - D SW - R SC - R SL - R	BC - R SF - R BW - D SC - R SL - R	BW - R SF - D SW - D SC - R SL - R	SC - R SF - R SW - R SC - R SL - R	BW - R SF - R SW - R SC - R SL - R
	BG - R SW - R SC - R SF - R SL - R	BG - R SW - D SC - R SF - R SL - R	BW - R SW - D SC - R SF - R SL - R	SC - R SW - R SC - R SF - R SL - R	BW - D SW - R SC - R SF - R SL - R
	BG - R SF - D SW - R SC - R SL - D	BG - D SF - D SW - D SC - R SL - D	BW - D SF - D SW - D SC - R SL - D	SC - R SF - R SW - R SC - R SL - D	BW - D SF - R SW - R SC - R SL - D
	BG - D SF - R SW - R SC - R SL - D	BG - D SF - D SW - D SC - R SL - D	BW - D SF - D SW - D SC - R SL - D	SC - D SF - R SW - R SC - R SL - D	BW - D SF - R SW - R SC - R SL - D
	BG - D SF - D SW - R SC - R SL - R	BG - D SF - D SW - D SC - R SL - R	BW - D SF - D SW - D SC - R SL - R	SC - D SF - D SW - D SC - R SL - R	BW - D SF - D SW - D SC - R SL - R
	LG - D SF - D SL - D SC - D SW - D	SG - D SF - D SL - D SC - D SW - D	SG - D SF - D SL - D SC - D SW - D	SG - D SF - R SL - D SC - D SW - D	SW - R SF - D SL - D SC - D SW - D

- SC EROSION CONTROL
- SG ENGINEERING GEOLOGIC
- SW SEISMIC HAZARD
- SF: SOIL AND FOUNDATION
- SL: SLOPE STABILITY

* CRITICAL STRUCTURES ARE DEFINED AS THOSE WHICH ORDINARILY ARE OF HIGH OCCUPANCY OR REMAIN IN OPERATION DURING AN EMERGENCY SUCH AS POLICE AND FIRE STATIONS, SCHOOLS, HOSPITALS, STADIUMS, ETC.

RECOMMENDED INVESTIGATIONS FOR VARIOUS GEOTECHNICAL PROBLEMS

SITE PROBLEM	ROUTINE (R)	DETAILED (D)
Erosion Control (EC)		
erosion siltation	drainage control landscaping	in addition to items under routine: erosion rates of rocks or soils siltation control
Engineering Geologic (EG)		
faults landslides slope stability grading excavation drainage groundwater	reconnaissance of site review literature and maps prepare generalized geologic map drainage control review grading plans inspect during grading prepare "as built" geologic map	in addition to items under routine: aerial photograph interpretation prepare detailed geologic map determine subsurface structure analyze: fault potential, groundwater conditions, slope stability geophysical surveys to determine hard rock excavation methods
Seismic Hazard (SH)		
faults earthquake effects	generalized evaluation of potential primary and secondary earthquake effects	research earthquake records including site strong motion data establish maximum credible and design earthquake geophysical investigation for fault locations, using trench data and primary and shear wave velocities dynamic soil response tests computer analysis of dynamic response of soils and rocks
Soil and Foundation (SF)		
soils and foundations	obtain soil samples from various depths, test for applicable engineering characteristics determine groundwater levels, drainage, slope conditions	in addition to items under routine: specialized sampling specialized testing and analysis of soils: consolidation, triaxial testing, permeability, dynamic response recommend specialized foundation designs
Slope (SL)		
slope stability	generalized analysis of stability, based on geologic, soil, and groundwater data	in addition to items under routine: determine subsurface structure geologic analysis of rock structure and proposed slopes analysis of soil data for proposed slopes analyze potential seismic effects on slopes

At present, the only method available for dealing with active faults is to avoid them by observing setback distances for structures in fault areas. Setback distances are generally between 50 and 200 feet depending upon local conditions and the type of structure under consideration.

Approximately half of the study area could be developed utilizing conventional engineering methods following routine geotechnical investigations.

The RECOMMENDED INVESTIGATIONS FOR VARIOUS GEOTECHNICAL PROBLEMS Table gives examples of routine and detailed investigation procedures suggested for specific geotechnical problems as they might occur at individual development sites. The type and extent of investigation required depends upon the need to determine the precise nature and severity of geologic and seismic hazards. Conditions can vary considerably from one location to another within an apparently homogeneous area.

The type and extent of investigation required further depends upon the kind of development planned for a particular site. The RECOMMENDED INVESTIGATIONS FOR BASIC TYPES OF DEVELOPMENT Table indicates the type and extent of investigation suggested for the five basic types of development considered to be reasonably representative of all potential development. These are: high-rise (over four stories), conventional residential, light industrial or commercial, heavy industrial, and critical structures. Critical structures are those which ordinarily have high occupancy, such as schools and stadiums, and those which must remain in operation during any emergency, such as hospitals and police facilities.

The SLOPE STABILITY RELATED TO DEVELOPMENT Table indicates the stability hazards which can be created by development activities. Some of the remedial measures which can minimize these hazards are described.

The tables are necessarily generalized and abbreviated. They are intended to suggest guidelines and should not be interpreted as limiting only those procedures listed to only those problems or types of development listed. Recommendations for specific types of geotechnical investigations can only be made on the basis of professional judgment at individual development sites.[19]

RISK ANALYSIS PLANNING FOR THE VALLEY FLOOR AREA

The geotechnical analysis of the valley floor area has been accomplished through the use of generally available data and the identification of typical geologic hazards. The hazards in the valley floor area are more limited than those of the hillsides and primarily related to seismic occurrences.

The valley floor area can be divided into four areas on the basis of the nature of the earth materials and the presence and severity of geologic and seismic hazards. Figure V-8 delineates the distribution of the four hazard areas throughout the valley. The RATING OF GEOTECHNICAL PROBLEMS Table rates the severity of the most significant problems in each of the mapped areas. Generally the critical geotechnical problems of zones B, C and D are: the postulated location of the Hayward Fault in D, ground failure such as lurch cracking and lateral spreading in C, and liquefaction potential in B. Zone A is reasonably free of geologic and seismic hazards.

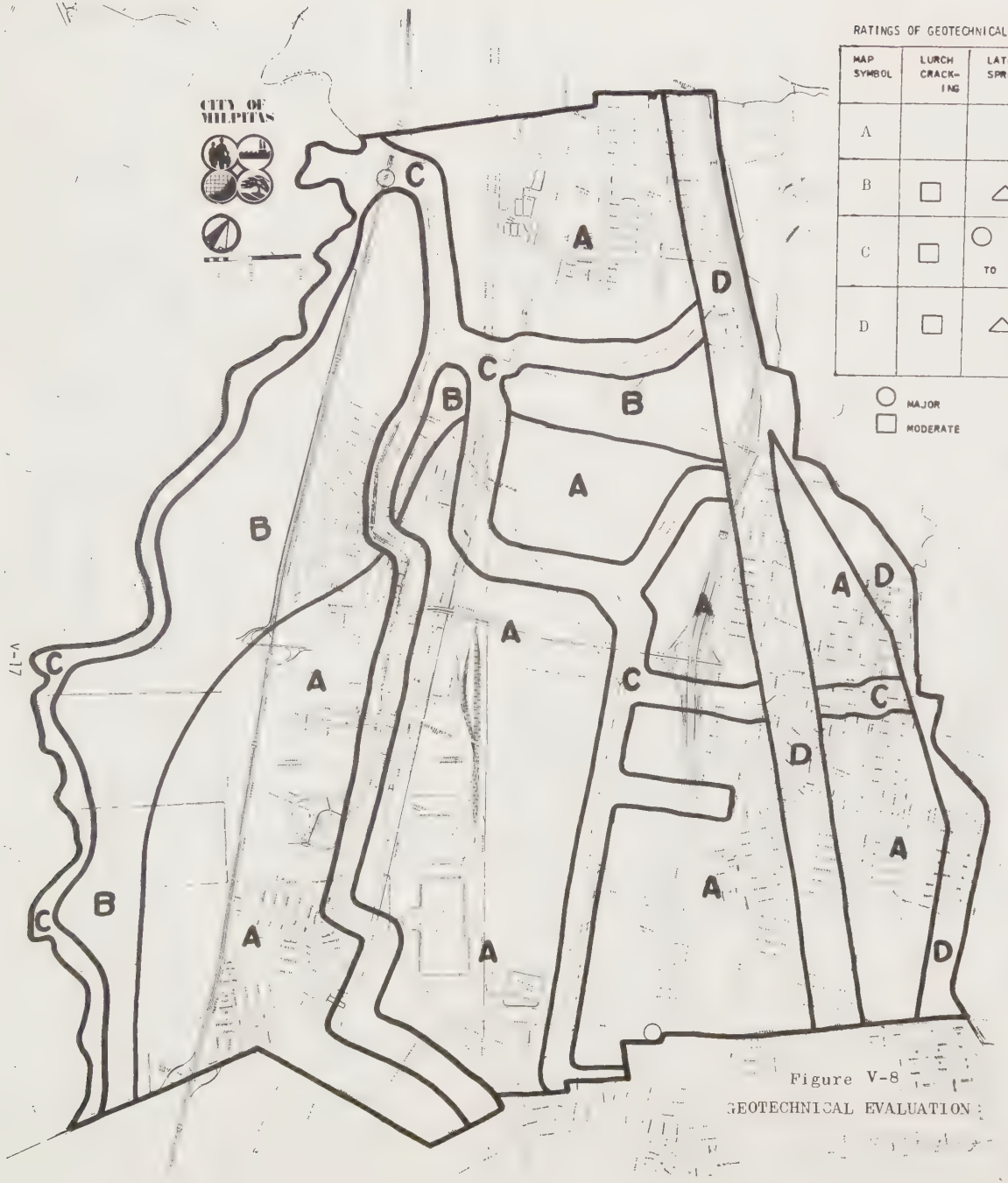


Figure V-8

GEOTECHNICAL EVALUATION

RATINGS OF GEOTECHNICAL PROBLEMS

MAP SYMBOL	LURCH CRACKING	LATERAL SPREADING	VIBRATION DAMAGE	LIQUEFACTION
A			□	
B	□	△	○*	○* TO □
C	□	○ TO □*	□	□ TO ○*
D	□	△*	□	

○ MAJOR △ MINOR
□ MODERATE * LOCALLY

RECOMMENDED INVESTIGATIONS FOR VARIOUS TYPES OF DEVELOPMENT

RESIDENTIAL	HIGH RISE	CRITICAL STRUCTURES	LIGHT COMMERCIAL	HEAVY INDUSTRIAL
SF-R SH-R	SF-D SH-D EG-R	SF-D SH-D EG-R	SF-D SH-R	SF-D SH-D
SF-R SH-R	SF-D SH-D EG-R	SF-R SH-D EG-R	SF-R SH-R EC-R	SF-D SH-D EG-R
EG-R SF-D SH-D SL-D	EG-R SF-D SH-D SL-D	EG-R SF-D SH-D SL-D	EG-R SF-D SH-D SL-D	EG-R SF-D SH-D SL-D
EG-D SF-R SH-D SL-R EC-R	EG-D SF-D SH-D SL-D EC-R	EG-D SF-D SH-D SL-D EC-R	EG-D SF-D SH-D SL-R EC-R	EG-D SF-D SH-D SL-R EC-R

RECOMMENDED INVESTIGATIONS FOR VARIOUS GEOTECHNICAL PROBLEMS

SITE PROBLEM	ROUTINE (R)	DETAILED (D)
	Erosion Control (EC)	
erosion siltation	drainage control landscaping	in addition to items under routine: erosion rates of rocks or soils siltation control
	Engineering Geologic (EG)	
faults landslides slope stability grading excavation drainage groundwater	reconnaissance of site review literature and maps prepare generalized geologic map drainage control review grading plans inspect during grading prepare "as built" geologic map	in addition to items under routine: aerial photograph interpretation prepare detailed geologic map determine subsurface structure analyze: fault potential, groundwater conditions, slope stability geophysical surveys to determine hard rock excavation methods
	Seismic Hazard (SH)	
faults earthquake effects	generalized evaluation of potential primary and secondary earthquake effects	research earthquake records including site strong motion data establish maximum credible and design earthquakes geophysical investigation for fault locations, micro tremor data and primary and shear wave velocities dynamic soil response tests computer analysis of dynamic response of soils and rocks
	Soil and Foundation (SF)	
soils and foundations	obtain soil samples from various depths, test for applicable engineering characteristics determine groundwater levels, drainage, slope conditions	in addition to items under routine: specialized sampling specialized testing and analysis of soils: consolidation, triaxial testing, permeability, dynamic response recommend specialized foundation designs
	Slope (SL)	
slope stability	generalized analysis of stability based on geologic, soil, and groundwater data	in addition to items under routine: determine subsurface structure geologic analysis of rock structure and proposed slopes analysis of soil data for proposed slopes analyze potential seismic effects on slopes

SAFETY CONCERNS AND CONTINGENCY PLANNING

In addition to geologic hazards, the City faces potential risk from other natural causes: flodding, fire (both structural and grass or brush), and maintaining the water system in case of emergencies.

FLOODING

The problem of flooding has grown to be of such a concern that the Federal Government has begun adopting guidelines for the safety of flood prone areas. These guidelines prepared by the Flood Insurance Administration (FIA) will require affirmative action by local communities in dealing with floor hazard. In general the guidelines are as follows:

- Development, especially homes, located within areas of potential flooding (100 year storm is used as the basis) will be required to obtain flood insurance before sale or transfer of title where federally insured loans are involved.
- New development proposed within the flood way must be flood proof. This will require that new development within flood plains must have the habitable floor above the potential flood level. Individual dikes or berms are not considered "flood proof," thus requiring:
    * Filling of the site to an elevation above the flood plain or,
    * Construction of a flood way (channel) to insure flood waters will pass by the site.
    * Waterproof portions of a structure and anchoring the structure.

Federally insured loans will not be available unless these criteria are met.[20]

Figure V-9 illustrates the extent of the historic flooding and potential 100 year flooding in the Milpitas area, and Figure V-10 indicates the undeveloped portions of Milpitas which will require flood protection prior to development. The only satisfactory long term solution is the construction of adequate flood control channels. This will require improvement of the Coyote River and Penitencia, Berryessa, Scott, Calera, and Los Coches Creeks to withstand 100 year frequency run-offs. In some cases, interim solutions of adequate filling may suffice.

FIRES

The ability to provide adequate fire protection is a combination of sufficient manpower and equipment and the prevention systems. Gage-Babcock and Associates has prepared an in-depth review of the Milptias fire system entitled, "Report on Fire Defense Evaluation (1974)" Reference should be made to the full report for details of the evaluation and recommendations.

The report also proposed the following Fire Policy Plan:

- The City Council should adopt a policy which will provide for the safeguarding of life and property from the normal fire hazards found within the City. The policy should be based upon a systems approach and establish protection by providing a balance between Fire Department strength, outside aid, and private protection.

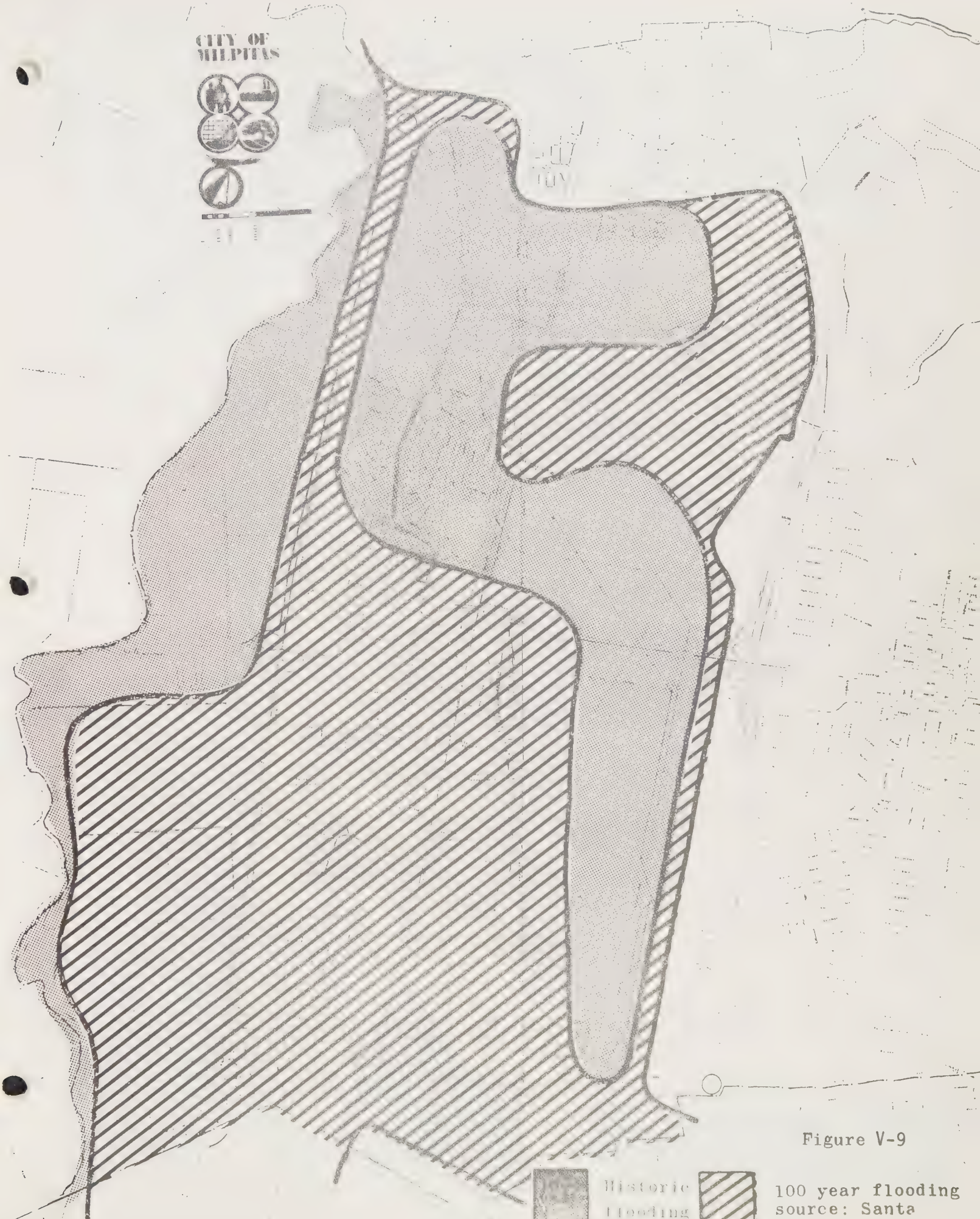

CITY OF MILPITAS
Historic flooding
100 year flooding source: Santa Clara Valley Water

Figure V-9

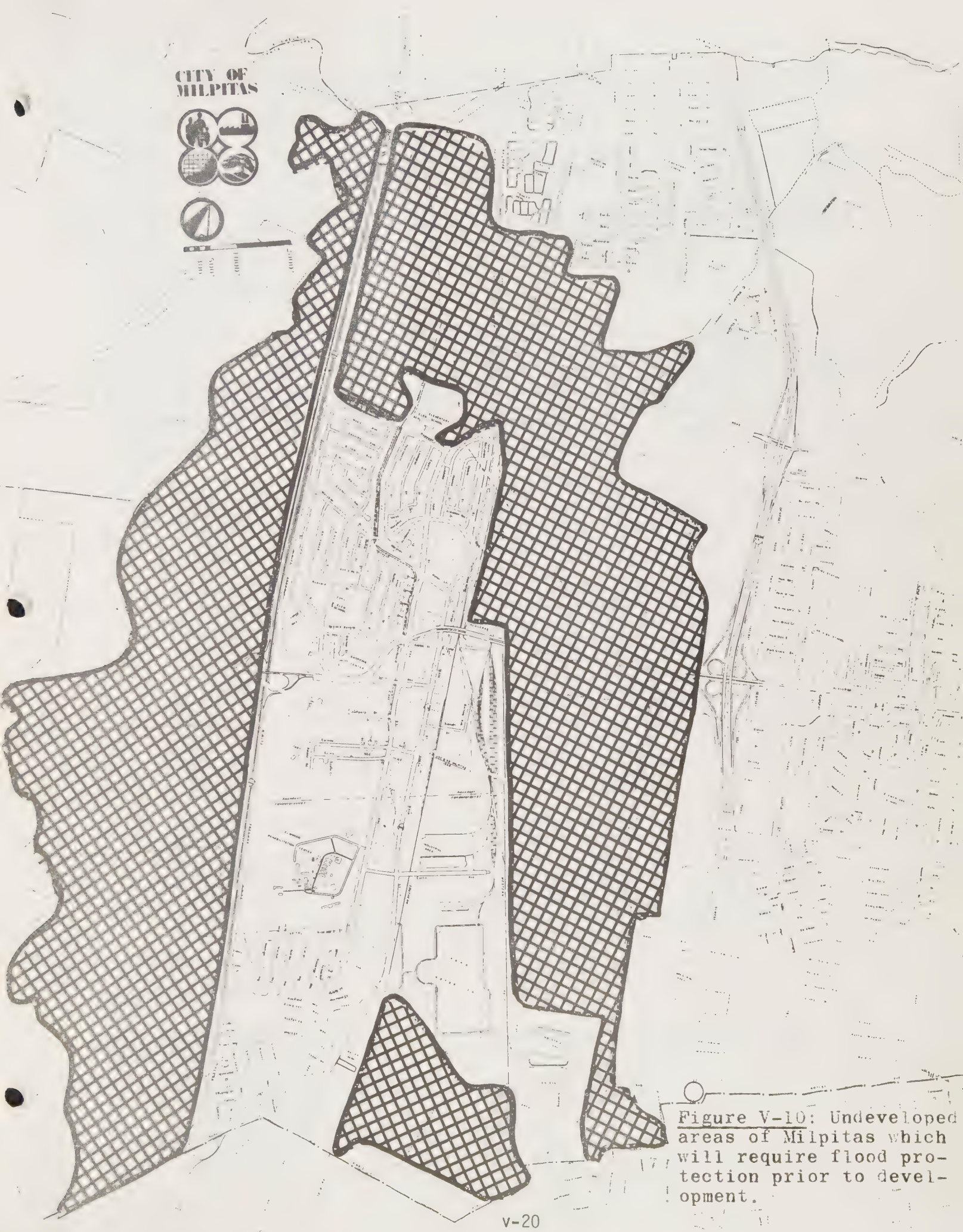


Figure V-10: Undeveloped areas of Milpitas which will require flood protection prior to development.

- Hazards which would exceed the capabilities of the Department should be required to provide built-in protection to reduce the hazard to a level which is within the Department's capabilities.

Emergencies such as large fires or multiple fires should be provided for by using outside aid and call-back to compliment the City's normal forces.

An I.S.O. Class goal should be established and a definite program developed to achieve the maintain that goal. (A Class 4 or 5 grading is desirable and is average for similar cities).[21]

MAINTAINING WATER SERVICE

The management of a water utility is a complex operation encompassing a multitude of programs, all directed toward guaranteeing a continuous, uninterrupted supply of high-quality water. In a general sense, the most important components in a water service system confronted with a major catastrophe are adequate numbers of qualified personnel, adequate amounts of stored supplies and materials for repairs, available power, and appropriate communications capability. The importance of independent sources of emergency power cannot be overstated.

The City of Milpitas has had a comprehensive review of qits water system completed by James H. Montgomery Engineers. This report urged the preparation of an "Emergency Water Plan" for implementation in the event of a disaster. Such a plan should consider three basic aspects of water storage:

- Operational Storage: The amount of water needed to smooth out the flutuations of demand on the sources of water supply. The estimated operational storage requirements will increase from 3.6 million gallons in 1972 to 12.6 million gallons in 2020.

- Fire-Flow Storage: The amount of water stored for firefighting purposes. Fire-flow storage requirements are expected to increase from 3.2 million gallons in 1972 to 4.7 million gallons in 2020. Since it is not uncommon for a major power failure to develop because of, or concurrent with, a fire, it is desirable to have water for firefighting available by gravity supply.

- Emergency Storage: The amount of water stored in case of water supply interruptions due to pipe failures or scheduled maintenance or construction activities. Emergency storage equal to three days water use is recommended as a minimum for Milpitas. Based on this criteria, estimated emergency storage requirements will increase from 18.2 million gallons in 1972 to 63 million gallons in 2020. Provision of storage facilities to meet these requirements will also satisfy operational and fire-flow needs.

MILPITAS EMERGENCY PLAN

The City Emergency Organization will be responsible wherever possible for accomplishing the following goals:

- Save lives and protect property.

- Repair and restore essential services.

- Provide for the protection, use, and distribution of remaining resources.

- Preserve the continuity of government.

- Coordinate operations with emergency organizations of other jurisdictions.

Assumptions for an Emergency: Civil emergencies may arise from a number of events: severe earthquakes, flooding, civil disturbances, fire, etc. Assumptions common to these emergencies are that normal facilities and systems may become overloaded or inoperative, the Emergency Organization may be partially or wholly activated as necessary, and mutual aid could be expected from unaffected areas.

Operational Concept for Dealing with Emergencies: Disasters such as fires, floods, and civil disorder are controlled by City public safety and engineering forces as part of their continuing responsibilities. Initial responses are made by Fire, Police, or Public Works Departments in accordance with their normal operating plans and procedures.

The Emergency Organization (established by the City Council) is mobilized and emergency procedures utilized to the extent necessary when disaster overloads or threatens to overload the regular force concerned, or disaster effects require the combined efforts of several departments. The Organization would also be used when a mutual aid assistance is required from other jurisdictions, and disaster effects require strengthened control and coordination.

Responses will vary depending on the nature of the emergency. Those common to any emergency situation include:

Coordination: The Director of Emergency Services (City Manager) coordinates operations.

Declaration: The Director or Council declares a LOCAL EMERGENCY when appropriate.

Public Information: The public is informed that government action is under way. Actions that can or should be taken by individuals are described in announcements by radio and television.

Reports: The Operational Area (County) Organization and the State Office of Emergency Services are informed of the local situation.

Warning of an impending disaster may or may not be received from the County Communications Center or via the California Law Enforcement Teletype System. Local radio and TV stations broadcast essential emergency information.

The City of Milpitas is a party to the California Master Mutual Aid Agreement. The City can request and receive help from other jurisdictions if additional resources are needed; and is obligated to help other jurisdictions to the extent practicable in these circumstances.

Provision is made for the continued functioning of City Government despite effects of disaster. The City Council will meet as soon as possible after a disaster; and when necessary, reconstitutes itself and fills appointive City offices. The Director of Emergency Services if unavailable, is succeeded by the City Manager Pro Tempore (see current Resolution of City Council relating to succession).

The City Emergency Operating Center is located in the City Hall, 455 East Calaveras Boulevard. The alternate Emergency Operating Center is the Headquarters Fire Station at 25 West Curtis Avenue.

The Emergency Plan outlines how the City of Milpitas prepares, mobilizes, and employs public and private resources to cope with serious emergencies and disasters. The emergency operations parts of the plan will become effective immediately and to the extent necessary at the onset of a STATE OF EMERGENCY or LOCAL EMERGENCY. The plan will also go into effect when ordered by the Director of Emergency Services and to the extent necessary to prepare for or increase readiness for an imminent emergency.

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13 See Reference 7.

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17 See Reference 1.

18 Armstrong, Dean, Project Director, "Tri-cities Seismic Safety and Environmental Resources Study", El Cerrito, Richmond, and San Pablo, 1973.

19 See Reference 7.

20 Housing and Urban Development, Department of, Federal Insurance Administration

21 Gage-Babcock & Association, "Report on Fire Defense Evaluation and Ten Year Growth Plan for Fire Department, City of Milpitas", 1974.

VI. SCENIC ROUTES ELEMENT

(Adopted April, 1975)

INTRODUCTION

The Scenic Routes Element has been developed to provide the means for Milpitas to retain and enhance the scenic qualities of areas adjacent to and visible from its scenic roads. The element is intended to add considerations of roadway and road corridor appearance to the scope of the General Development Plan and to propose legislative measures to protect and enhance the scenic value along Scenic Routes.

The scenic highway systems of Santa Clara County and adjacent jurisdictions have also been considered in drafting this element. An effort must be made and continued to provide coordination in the various scenic route plans affecting the southeast Bay Area.

DEFINITIONS

The following list defines scenic route terms as used in this element.

Scenic Road: a road or freeway which passes through or adjacent to an area of scenic value or provides an efficient route to or between such areas. An area of scenic value could be a rural area or an area containing man-made environments with attractive structures or urban vistas.

Scenic Corridor: the Scenic Road right-of-way plus land on either side subject to special controls for the purpose of retaining and enhancing nearby views or maintaining unobstructed distant views along the Scenic Road. Width of the Scenic Corridor will vary from the depth of lots adjacent to the right-of-way in areas with complex property ownerships to distances of up to 1,000 feet or more in relatively open rural areas. It is within this area that development controls, dedication, and the purchase of easements or lands in fee simple will be required, and public projects reviewed for compliance with this plan.

Scenic Connector: a street or road used to connect or provide access to Scenic Corridors. A Scenic Connector may not necessarily traverse an area of scenic value, and the abutting land is not subject to Scenic Corridor land use controls. However, special design treatment -- which may include roadside landscaping, undergrounding of utility lines, and street furnishings -- will be carried out to provide a visual continuity with the Scenic Corridors.

Scenic Route: A Scenic Corridor or Scenic Connector as defined above.

GOALS

- To preserve the opportunity for enjoyment of scenic qualities from the roadside areas in Milpitas' sphere of influence.

- To establish a system of Scenic Routes for pleasure driving.

- To assist in stabilizing or increasing property values and the economy of Milpitas by preserving and adding to its attractiveness.

OBJECTIVES

The objectives of the Scenic Routes Element are statements that attempt to put forward the means of achieving the goals of the plan. These are stated below:

- To establish a well-integrated network of continuous and varied Scenic Roads and Connectors to link and provide maximum Scenic Route access from urban areas and the regular transportation network to parks, open space areas and cultural attractions.

- To enhance the visual impact of the gateways to Milpitas.

- To encourage a variety of recreational uses along the scenic routes consistent with the concept of providing visual amenities.

- To provide for the inclusion of facilities and improvements (vista points, picnic areas, etc.) along Scenic Routes where appropriate.

- To delineate Scenic Corridors and the means for protecting them including, but not limited to, ordinances, policies and guidelines affecting land use intensity and density, and development design and siting.

- To design and site scenic roads in order to have a minimal adverse impact on the environment.

Some of the visual and cultural resources mentioned in these objectives are identified on Figure VI-1 (page vi-4).

SCENIC ROUTE GUIDELINES

LAND USE

In Scenic Corridors permitted land uses should be limited to low density residential development (including customary accessory uses), agriculture, parks, trails, and other open space uses. Clustering of dwelling units should be allowed in appropriate areas in order to preserve open space while providing for desired development. Special height and setback regulations should be required within the corridor so that scenic resources are not visually obstructed. Commercial development can be allowed when clearly designated in the adopted General Plan. Residential development abutting Scenic Corridors should be oriented to internal areas as much as possible and screened from the scenic road. All adjacent urban use access points should be carefully planned, including limited driveway access from the Scenic Road.

SCENIC CORRIDOR BOUNDARIES

The presence of outstanding scenic resources should be the primary factor in determining Scenic Corridor boundaries. Such boundaries should be drawn to particularly include resources reasonably close to the road such as:

- Stream beds and other bodies of water

- Stands of mature trees

- Significant ecological associations

- Geologic formations

- Crest ridges which constrict the range of vision

Precise boundaries can often be set to coincide with property lines, district boundaries, or other legal delineations. Where precise criteria cannot be established for delineation of a Scenic Corridor, boundaries generally can be set at 1,000 feet from one or both sides of the roadway.

DESIGN AND SITE CONTROLS

All development within Scenic Corridors should be subject to strict architectural and siting review. Structures should be of a design and material that will blend with the natural scenic qualities. Originality in construction and landscaping design should be encouraged. Provisions for adequately screened off-street parking should be provided at planned intervals along Scenic Corridor Routes.

LANDSCAPING

Where necessary, all Scenic Route public rights-of-way should be landscaped for improvement of scenic qualities and erosion control. The landscaping should be related to the natural environment of the Scenic Route. In general, it should provide view framing and utilize plantings of appropriate scale. Landscape materials should not form a solid visual barrier except to screen unsightly views.

UTILITY AND TRANSMISSION LINES

Utility lines and transmission towers within or easily visible from Scenic Routes should be relocated or appropriately screened from view where possible. Utility lines should be underground wherever possible.

SIGNS AND ROADSIDE FACILITIES

Within Scenic Corridors, on-site signs should be controlled to allow only the minimum size and height necessary for identification purposes. Design and location of signs within Scenic Corridors or along Scenic Connectors should be regulated to prevent unsightly and obtrusive conglomerations of advertising. All off-premises outdoor signs are prohibited by the City's Sign Ordinance.

Appropriate and consistent Scenic Route identification signs should be placed periodically along all Scenic Route rights-of-way to indicate the road is within the Scenic Routes System. Instructional signs and displays should also be provided where appropriate along all Scenic Routes and at roadside facilities, indicating major visual features of the area.

Median landscaping, lighting fixtures, street signals, and other street furnishings along Scenic Routes should follow a consistent design scheme, and be tastefully blended into the natural or urban landscape. Where not provided as part of the Scenic Corridor's public right-of-way, provisions should be made for view turnouts, rest areas and picnic facilities.

PROPOSED SCENIC ROUTES

Based on the goals and objectives previously identified and an analysis of the scenic resources available, the following routes are proposed for Scenic Route designation and are shown on Figure VI-1.

FIGURE VI-1

SCENIC ROUTES, VISUAL and CULTURAL RESOURCES

SCENIC CONNECTORS

Interstate 680 (Sinclair Freeway): This route with its elevated position through the central part of Milpitas affords good vistas of the urban setting. The freeway, in a regional context, can serve to provide a vital link in an around-the-Bay system of scenic freeways. State Highway 24 in Contra Costa County, Interstate 680 in Alameda and Contra Costa Counties, Interstate 280, and Interstate 580 are all on the State Master Plan as highways eligible for official designation as State Scenic Highways.

State Highway 17 (Nimitz Freeway): Presently the lands in the Milpitas Planning Area between the Nimitz Freeway and Coyote River are in agricultural use. The General Plan designates this area for industrial park and highway service uses. The Nimitz Freeway in this area should be designated as a Scenic Connector in order to preserve some of the present visual quality of this open area and provide continuity among the scenic routes plans of nearby jurisdictions.

State Highway 237/Calaveras Boulevard: This major east-west arterial, running from Piedmont Road to the Nimitz Freeway and providing full access to two freeways, passes through two major commercial/cultural areas: the Town Center and the historical downtown area along Main Street.

SCENIC CORRIDORS

Calaveras Road: This road in its entirety has the potential of becoming a scenic route of regional significance: it travels through one regional park and comes within a mile of another, overlooks one reservoir and passes near another (both having regional recreation potential), and crosses open space areas all along its length.

Felter Road: The inclusion of this road in the Milpitas Scenic Routes System can provide for a southerly loop-route from Calaveras Road to Sierra Road.

SCENIC CORRIDOR/CONNECTORS

Piedmont Road: This route also is an important collector street to and between the major east-west arterials of Calaveras Boulevard and Yosemite and Landess Avenues, and provides for a continuation of San Jose's proposed Scenic Corridor/ Connector, Old Piedmont Road. Located along this route are existing and proposed cultural attractions of regional importance: the Alviso Adobe at Piedmont Road and Calaveras Road and the proposed junior college at Piedmont Road and Landess Avenue.

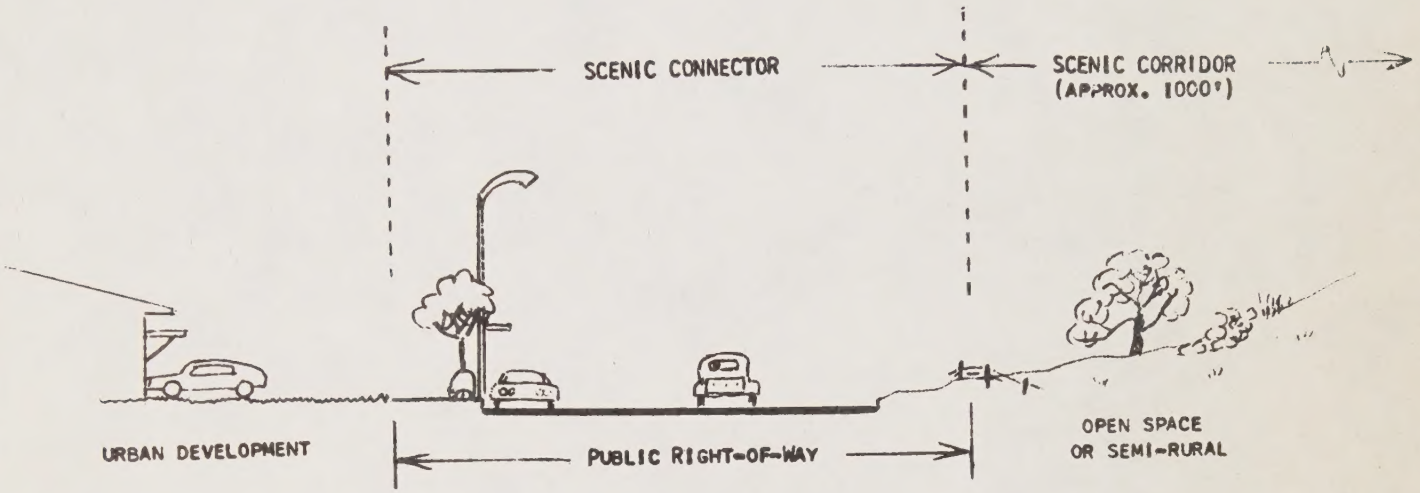
Piedmont Road is proposed for Scenic Connector treatment, with the adjacent lands to the east being designated as a Scenic Corridor (see Figure VI-2).

Evans Road/North Park Victoria Drive (Proposed Extension): Evans Road has the potential of being a collector street to and between Jacklin Road and Calaveras Boulevard, and the proposed northerly extension of North Park Victoria Drive would provide access to the Weller Ranch and Higuera Adobe, which is proposed on the Milpitas General Plan and the Santa Clara County Regional Parks Plan as a historical site. These two roads could provide, along with Piedmont Road, a continuous Scenic Route the length of Milpitas.

Like Piedmont Road, Evans Road and the North Park Victoria Drive extension will be designated for Scenic Connector treatment with the lands to the east designated as a Scenic Corridor (see Figure VI-2).

FIGURE VI-2
SCENIC CORRIDOR/CONNECTOR
(Schematic Cross-section)

Local Street:



Freeway & Frontage Road: